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Original Articles.

THE PONTO-BULBAR HEAT CENTER.*

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Although our knowledge of the thermogenic mechanism is still in a formative state, we nevertheless have sufficient experimental data to warrant the conclusion that in the higher animals the heat formed arises in part as a product incident to the activities of all forms of vital processes, and in part as a specific product of specific heat-producing structures. The results of Rubner's researches leave no doubt as to the skeletal muscles possessing, besides their motorial properties, a specific thermogenic function, and, as a consequence, that these structures not only produce heat as an incident to repair, growth and motor activity, but also as a specific product. They further show that the quantity of heat which arises by virtue of this special function bears a reciprocal relationship to the amount formed as an incident to the activities of the body structures generally, increasing or decreasing in adjustment to the variations in thermogenesis caused by rest and activity, etc., and to the alterations in thermolysis which are dependent upon ever-changing internal and external conditions; so that as the output of heat incidentally produced increases or decreases, the quantity resulting from the specific thermal function of the skeletal muscles varies co-operatively in supplying the number of heat units required by the organism at any given time. Moreover, there can be no doubt that this specific thermal function is directly controlled by specific thermogenic centers, which are located in the cerebrospinal axis, although very little is known of their exact positions, functional relations and characteristics.

Since Tscheschichin[1] showed, thirty-five years ago, in an experiment upon a rabbit that injury of the base of the brain may be followed by a rapid and decided rise of body-temperature, considerable valuable information has been obtained from the researches of Bruck and Günter,[2] Eulenburg and Landois,[3] Hitzig,[4] Richet,[5] Wood,[6] Aronson and Sachs,[7] Girard,[8] Baginsky and Lehmann,[9] Baculo,[10] Ott,[11] White,[12] Tangl,[13] Kemp,[14] Schultz,[15] Schreiber,[16] and myself.[17 18] A critical study of these contributions justifies the following conclusions:

1. That specific thermogenic centers exist in the brain and spinal cord, and that these centers are connected with each other and with various parts of the body, especially with the skeletal muscles and skin, by specific afferent and efferent thermogenic nerves. 2. That the centers in the brain are either thermo-accelerator or thermo-inhibitory. 3. That the center in the spinal cord is a general or reflex center. 4. That the brain centers probably affect heat production by acting upon the spinal center. 5. That the spinal center when separated by section from the brain centers is able to maintain the normal standard of heat production. 6. That the activities of these centers is largely influenced by the changes in the temperature of the blood, and by cutaneous impulses which are probably generated in the peripheries of the "heat" and "cold" nerves. 7. That the caudate nuclei contain an important thermo-accelerator center. 8. That the pons and bulb probably contain a thermo-accelerator center. 9. That a thermo-inhibitory center is located in the dog in the first cerebral convolution posterior to and in the vicinity of the sulcus cruciatus, and that possibly another such center extends downward from the junction of the supra-sylvian and post-sylvian fissures to the posterior fissure. 10. That there is no adequate evidence to lead to the belief that specific heat centers exist in any other part of the body than in those above noted.

The experimental study of the locations and functional peculiarities of heat centers is attended by many sources of fallacy, some of which are unavoidable and some so important as to materially modify or even entirely vitiate the results. Shock, hemorrhage, the pressure of a clot, circulatory and respiratory disturbances, the involvement of contiguous parts, etc., may be more or less potent disturbing factors, but shock is pre-eminently the most important. The sensitivity of the cerebrospinal axis to injury is very evident in the more or less marked disturbances of temperature, which almost invariably follow, and which sometimes are decided and persistent. In some instances a rise continues until death ensues from the excessive temperature, and in others there occurs a steady and rapid fall, which progresses until there is general functional collapse. Shock causes the temperature to decrease, and its influences may be so powerful as to not only prevent the decided rise, which ordinarily would be caused by irritation of the caudate nuclei, but even to bring on at once a rapid decrease. The ease with which the body-temperature is affected by even trifling injuries of the brain makes it necessary to be very guarded in reaching conclusions as to the specific connection of any given portion of the cerebrospinal axis with the heat mechanism, unless the effects of shock, vaso-motor palsy, etc., can be eliminated to a satisfactory degree, and the results obtained by the section, puncture, ablation, etc., be reasonably uniform and positive.

In the experiments recorded in the present contri-

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bution, essentially the same technic was pursued as in a preceding research[18] on the effects of lesions of the base of the brain upon the heat processes. Dogs were used and were thoroughly anesthetized with a mixture of ether and chloroform (3:1), a tracheal canula was inserted, the skull was trephined on a level with the upper surface of the structure to be cut, and then a slightly bent, blunt-edged probe was pushed horizontally through the brain mass and withdrawn with a downward, sweeping movement, thus cutting all the nervous matter beneath, without, however, injuring any important vessels. Such section causes but trifling hemorrhage, and a variable amount of shock, which latter is indicated by immediate effects upon the respiratory movements and circulation, and in some cases by a fall of body-temperature. Artificial respiration was practiced throughout the experiments, even though it might have been possible for the ventilation of the lungs to have been carried on effectively by spontaneous respiratory movements.

When after the section a rise of temperature occurs, the result, eliminating any probable indirect effects due to the changes in the circulation and respiratory movements, is to be attributed to a cutting off of thermo-inhibitory impulses or to the generation of thermo-accelerator impulses. If due to the former, stimulation of the part of the brain involved in the section should lessen the temperature; while if the latter, the reverse. Inasmuch as section, puncture and other forms of stimulation of the striate bodies, crura cerebri and pons cause an increase of temperature, we are justified in the conclusion that the rise is due to an irritation of thermo-accelerator centers or nerves. In the research referred to it was found that sections of the striate bodies and pons were, as a rule, followed immediately, or within a few minutes, by a decided increase of temperature; and that section of the white matter anterior to the caudate nuclei, of the thalami, and of the crura cerebri, are either not followed by a rise or by one that is usually comparatively transient and not marked. The difference is such as to suggest that in the first instance thermo-accelerator centers were irritated, and in the other, thermo-accelerator fibers. Of 11 experiments in which the section was made of the striate bodies or pons, in 8 the increase of temperature ranged from 0.98 to 4.37; in 2 it was but 0.26 and 0.27, respectively; and in one the temperature fell. In one of the last 3, the section was 2 mm. posterior to the anterior extremity of the caudate nuclei and the effects of shock were greater than those of direct irritation of the thermo-accelerator cells; in the other 2 the animals suffered even more severely from shock, one dying within 45 minutes, and the other within 1 hour and 15 minutes. In a total of 24 experiments, in 2 of which the section was made through the white matter just anterior to the caudate nuclei, in 2 where it was made through the thalami, and in 20 through the crura cerebri, in 18 cases a rise was noted—in 12 of which it was transient—in 14 it was less than 1, and in only 4 was it over 1.

In another research[17] in which the sections were made of the spinal cord at the level of the first and second cervical vertebræ, in 9 out of 10 experiments the temperature fell from the first. Probably the vasomotor palsy necessarily caused by these sections is almost solely accountable for the decrease. When sections are made of the bulb the effects are variable, and depend largely upon the extent to which the vasomotor center is involved, a fall of temperature occurring if the center is seriously affected, and a rise if not. If a rise occurs it is rarely so decided as when the section is through the pons; and the temperature curves differ in other respects. These experiments show, in a word, that sections of the caudate nuclei and pons are followed by results which, as a whole, differ materially from those caused by sections of other portions of the cerebrospinal axis at any point between the white matter anterior to the striate bodies and the level of the first and second cervical vertebræ, and they are such as to indicate that thermo-accelerator centers are located both in the caudate nuclei and ponto-bulbar region.

The main results of the research (*loc. cit.*) upon the effects of sections of the basal parts of brain are summarized in the following table.

TABLE 1.—Summary of the chief results of the sections anterior to the striate bodies, striate bodies, thalami, crura cerebri and pons.

	Number of experiments.	Mean maximum rise of temperature. Degrees.	Mean time of occurrence of maximum rise of temperature. hrs. min.
Sections anterior to striate bodies	2		
Sections of the striate bodies	6	2 4	2:53
Sections of the thalami	2	0.12	8
Sections of the crura cerebri	20	0 8	1:20
Sections of the pons	5	2 74	4

The studies made by various investigators of the thermal functions of the caudate nuclei are more numerous, extensive and convincing than those of the ponto-bulbar region, and the results are sufficient to justify the belief that these structures contain an important thermo-accelerator center. As to the ponto-bulbar region, the data upon which rests the belief that it contains a thermo-accelerator center is to be found mainly in the reports of the experiments by Tscheschichin,[1] Bruck and Günter,[2] Wood,[6] Ott,[19] and myself (*loc. cit*). But little intrinsic value is attached to the results obtained by Tscheschichin, Bruck and Günter, and Ott. Tscheschichin found in a single experiment upon a rabbit, in which the pons was severed from the bulb, that the temperature rose from 39.7 to 41.2 (1.5) in 30 minutes. Bruck and Günter in 23 experiments upon rabbits, in which the ponto-bulbar section of puncture was practiced, noted an increase in 11. Ott in 10 experiments on rabbits, in which the pons was punctured at various points, recorded in 6 a transient rise, usually slight and ranging from 0.3 to 2.6; in the other 4 the temperature fell. In Wood's research upon dogs and rabbits it was found that "injuries of the medulla so situated as to paralyze the medullary vasomotor center, are followed by a decided fall of animal temperature; section of the medulla at the line of its junction with the pons in the dog, usually leads to an elevation of animal temperature, if the medullary vasomotor centers are not in any way impaired; section of the medulla at its junction with the pons is followed by increased heat dissipation and increased heat production, the increased heat dissipation usually not keeping pace with the increased production, so that the body temperature rises." In three experiments on dogs, in which the section—at the junction of the pons and bulb—was complete, the rises of temperature amounted to 3.25 in 1 hour and 30 minutes, 4.88 in 2 hours and 35 minutes, and 3.88 in 5 hours and 2[illegible] minutes. In 4 experiments in which the sections were incomplete, 2 being on dogs and 2 on rabbits, in 3 the section was at the junction of the pons and bulb and in one through the pons, an increase of temperature was observed in each, but the greatest rise was only 1.1

In other experiments in which the sections were made lower in the bulb the temperature invariably fell, owing probably to the serious involvement of the vasomotor center. In my own experiments (*loc. cit.*) in which special studies were made of the temperature alterations in five dogs after the complete transverse section of the pons, in one the animal lived for less than an hour, and the temperature fell steadily from the time of the section, evidently because of severe shock; in the other four the rises were 3.48, 0.27, 2.87, and 4.34, respectively. In the experiment in which a rise of only 0.27 was recorded, the animal died within 1 hour and 15 minutes after the operation, the smallness of the rise probably being due to shock. In two calorimetric experiments the increases were 0.61 and 0.76, but these figures do not in all probability represent the highest points reached. In one of them the section was obliquely through the middle of the pons, and in the other through the point of union of the pons and bulb. The results show, in accord with Wood's, that the increase of temperature caused by pontine section is due to an increase of heat production.

This research I have supplemented by over 20 experiments upon dogs, but I have included in the present article only the records of those experiments in which autopsies showed that the *sections were complete*. The levels of the sections varied from the middle of the crura cerebri to within 3 mm. of the junction of the bulb and spinal cord. The detailed records of these experiments will be found in the accompanying tables, which also include a number from the earlier research. In the selection of the latter, only those experiments have been chosen in which the animals lived for at least two hours after the operation. When death occurred within this period, the effects of shock robbed the results of most of their value, especially for purposes of comparison of the effects of lesions of different localities upon the heat functions. The experiments are appropriately divided into four groups in accordance as the sections were through the caudate nuclei, crura cerebri, pons or bulb.

1. *Experiments in which the sections were through the caudate nuclei.*—In 6 experiments in which the level of the section varied from 2 mm. to 12 mm. from the anterior extremity of the nuclei, an increase of temperature was recorded in each (Table 2). In No. 1 it was only 0.26 and very transient, and was followed by a steady decrease for 4 hours and 15 minutes, when the experiment was ended. The section was 2 mm. from the anterior end. In the other 5 cases the rise amounted to 0.98, 4.37, 2.25 and 2.2, respectively. The average, which is 2.4, may properly be taken as approximately representing the mean maximum increase caused by the section of the nuclei at different levels as far back as 12 mm. The average time of the occurrence of the maximum increase was 2 hours and 53 minutes; in experiments 3 and 4 the maxima had not probably been attained at the time the experiments were concluded.

2. *Experiments in which the sections were through the crura cerebri.*—In 13 experiments in which the sections varied from a level close to the optic thalami to within 3 mm. of the pons, in 10 a rise occurred (Table 3). The increases were 0.04, 2.94, 1.2, 0.12, 0.4, 1.1, 0.82, 1.30, 3.64 and 0.62—the minimum was 0.04, the maximum was 3.54, and the average, 1.22. The average time of the occurrence of the maximum rise was about 3 hours, the shortest being 10 minutes, and the longest 7 hours and 30 minutes. In seven experiments the maximum was reached within three hours.

3. *Experiments in which the sections were through the pons.*—Ten experiments were made in which the pons was severed at points varying from the tip of the anterior extremity to the posterior edge (Table 4). In every one a rise occurred, varying from 1.3 to 4.86. The maxima were 3.48, 2.87, 4.34, 3.54, 4.83, 3.12, 1.3, 4.5, 4.43 and 4.86; the average increase was 3.73. The time

TABLE 2.—Records of 6 experiments in which the sections were through the caudate nuclei.

Number of experiment.	1	2	3	4	5	6
Level of the section.	2 mm. from the anterior extremity of the nuclei.	5 mm. from the anterior extremity of the nuclei.	6 mm. from the anterior extremity of the nuclei.	9 mm. from the anterior extremity of the nuclei.	12 mm. from the anterior extremity of the nuclei.	12 mm. from the anterior extremity of the nuclei.
Time after section. hrs. min.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees
0 02	38 72	39 32	39 68	39 28	38 45	39 32
03	39 08	38 82	38 80	38 26	38 52	38 52
05	38 95	38 65	38 82	38 22	38 65	38 62
10	38 88	38 60	38 65	38 20	38 65	
15	38 72	38 50	38 60	38 22	38 68	
20	38 60		38 50	38 32	38 50	
25	38 45		38 32	38 32	38 52	
30	38 20		38 22	38 52	38 65	38 88
45	37 88		38 22	38 85	38 95	40 35
1 00	37 68		38 22	40 35	39 50	41 05
15			38 98	40 92	40 32	41 18
30			39 02	41 93	40 32	41 30
45			39 05	42 48	40 62	41 30
2 00			43 85	42 48	41 53	41 62
15			43 70	42 48	41 53	41 55
30			43 62	42 52	41 53	41 55
45			44 05	42 52	41 53	41 55
3 00			44 05	42 52	41 53	41 55
15			44 05	42 52	41 53	41 55
30			44 05	42 52	41 53	41 55
45			44 05	42 52	41 53	41 55
4 00			44 05	42 52	41 53	41 55
15			44 05	42 52	41 53	41 55
30			44 05	42 52	41 53	41 55
Max. increase of tem. . .	0 26	0 98	4 37	3 3	2 25	2 2
Time of max. increase of tem. after section. . .	10 min.	3 hrs. 30 min.	4 hrs.	3 hrs. 15 min.	2 hrs. 30 min.	2 hrs. 30 min.

TABLE 3.—Records of 14 experiments in which the sections were through the crura cerebri.

Number of experiment.	7	8	9	10	11		3	14	15	16	17	18	19
Level of the section.	Close to thalami.	Close to thalami.	Middle of pedunecles.	Middle of pedunecles.	Middle of pedunecles.	Middle of pedunecles.	Middle of pedunecles.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.
Time after section. hrs. min.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
0:00											38.88		
:05	38.78	40 22	39.42			38.9	40.18	38.60	39.00	39 38			
:10	.82	.68	.60	40 08	38 88	39.0		.70	38.88	40.35		39.23	
:15	.80	.72	.75	.15	.92	.1		.78	.95		.40	.15	39 52
:20	.60		.60	.18	.90		.3	.58	.85	.22		.05	.38
:25		.86	.45	.08	.88			.55	.95		.37	38.94	.22
:30	.38		.48	.10	.95	.2	.4	.45	39.03	.20		39 00	.12
:45	.37	.95		.18	39.16		.7	.25	.08		.12	.00	.12
1:00			40.28	.15	.28	.3	.91		.32	41.02	37.92	.03	.30
:15	.51	41.22	.44	.15			40.10	37.55	.58		.35	.85	.12
:30	.53		.50	.15	.12	.4	.22		.82	.45	36.92	.80	38 50
:45		.31	.62	.20		.6	.36		40 08		.60	.70	.49
2:00	.52					40.0	.50	36 88	.30	.67		.78	.23
:15		.90		.15	38.10		.55				35 65	.75	37 92
:30	.32	.71	39.83	.10		39.9	.60	.51		42.12	.10	.75	.50
:45							.70				34.70	.80	
3:00	.20	.79	.42	.10			.70	.10		22	.42	.85	
:15						.4	.48				.10	.90	
:30		.92	.18					35.65		.50	33.82	.87	
:45			38.52			3	.75				.50		
4:00		.90					.80	.48		.58	.10		
:15						.2	.95				32.82		
:30		42.00					.90	.25		.62	60		
:45											.32		
5:00			37.95			39.0	.82	34.88		.72	.30		
:15		.60					.65			.80	31 85		
:30			.48			39.0	.40	.40		.90	.55		
:45		.50					41 00			43.02			
6:00			36 40				40.70			42.90			
:30		.28	35.10				.10			.75			
7:00		.30								.90			
:30		43.16								.92			
Max. increase of temperature	0.04	2.94	62.	0.12	0.4	1.1	0.82		1.3	3 64		0 62	
Time of maximum increase of temperature.	10 min.	7 hrs., 30 min.	1 hr., 30 min.	1 hr., 45 min.	1 hr.	2 hrs.	5 hr., 45 min.		2 hrs.	5 hrs. 45 min.		3 hrs. 15 min.	

TABLE 4.—Records of 10 experiments in which the sections were through the pons.

Number of experiment.	20	21	22	23	24	25	26	27	28	29
Level of the section.				Anterior margin of pons.	Anterior margin of pons.	2 mm. from the crura cerebri.	3 mm. from the crura cerebri.	4 mm. from the crura cerebri.	Middle of the pons.	Low'r margin of the pons.
Time after the section. hrs. min.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
0:00		38.53								
:03	39.42									
:05	.50		39.82	38 91						
:10	.50	.68		39.02		39.00	38.80			
:15	.58		.93	.55	38.95	.12	.70	38.90	39.03	39.30
:20	.62	.50								
:25	.73		.98							
:30	.90	.70		40.11	40 15	.22	.55	40 20	.08	.41
:45		.70	40.08	.22	.60	.40	.55	.51	.40	.75
1:00	.98		.40	.35	.95	.60	.52	.89	.80	.99
:15	40.08		.42	.55	41.28	.71	.50	41.30	40.35	40 35
:30	.15		.80	.70	.38	.85	.50	.75	.85	.70
:45	.62		41.07	.86	.45	.98	.60	42.20	41.32	.92
2:00	.88		.30	.93	.55	40.10	.70	.20	.80	41.15
:15	41.28		.45	41.10	.70	.22	.80	.65		.35
:30	.30		.62	.20	.75	.38	.90	.80	42.85	.60
:45	42.20	41 40	.85	.20	.90	.49	39.00	43 05	43.00	.80
3:00	.43		42.00	.50	42.10	.68	.10	.19	.40	.90
:15	.68		.15	.55	.33	.88	.17	.40		42.20
:30	.95		.30	.52	.58	41.10	.21		.46	.63
:45	43.00		.49	.60	.80	.45	.28			43.02
4:00	.23		.62	.65	43.00	.48	.30			.08
:15	.52		.80	.70	.10	.70	.38			.12
:30	.70		.95	.80	.15	.90	.42			.28
:45	.90		43.20	.90	.25	42.00	.50			.90
5:00			.35	42.08	.40	.02	.52			44.08
:15	.66		.70	.35	.53	.08	.60			.12
:30			.80	.45	.62	.12	.68			.16
:45			44.16		.70		.77			.10
6:00					.78		.88			43.95
:30										
7:00							40.10			
Max. increase of temperature	3.48	2.87	4.34	3.54	4 83	3 12	1.8	4.5	4.43	4 86
Time of max. increase of temperature.	4 hrs. 45 min.	2 hrs. 45 min.	5 hrs. 45 min.	5 hrs. 30 min.	6 hrs.	5 hrs. 30 min.	6 hrs.	3 hrs. 15 min.	3 hrs. 30 min.	5 hrs. 30 min.

of the occurrence of the maximum increase varied from 2 hours and 45 minutes to 7 hours, the average being about 5 hours. In 7 experiments the observations were continued from 5 to 7 hours, and in 3 they lasted for

from 2 hours and 45 minutes to 3 hours and 37 minutes. It is to be noted that in every experiment but 2—Nos. 20 and 29—the temperature was still rising when the experiments were concluded. The mean increase of temperature in this series was not only more marked, but steadier and more persistent than in the previous series.

4. Experiments in which the sections were through the bulb.—In 7 experiments the sections were through the bulb at different levels. In 2 the temperature increased steadily for over 5 hours; in one the rise was 0.68 and in the other it was 2.59 (Table 5). In the remaining 5 there occurred a slow, steady fall, which in 3 cases continued until death, and in one slightly recovered after the lapse of 4 hours and 15 minutes. In the 2 experiments in which the rise occurred the sections were in each 2 mm. from the pons. Sections of the bulb must necessarily seriously affect the vasomotor center, and it is noteworthy, when it is remembered how rapid is the fall of temperature caused by vasomotor palsy, that a rise of temperature ever occurs under such conditions. The most important results of these 4 series of experiments are summarized in Table 6.

TABLE 5.—Records of 6 experiments in which the sections were through the bulb.

Number of experiment.	30	32	32	33	34	35
Level of the section.	Close to the pons.	Close to the pons.	2 mm. from the pons.	2 mm. from the pons.	6 mm. from the pons.	3 mm. from the spinal cord.
Time after the section. hrs. min.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
0:00						
:05	38.84	39.78		39.66	39.25	
:10		.64	39.59	.85	.22	38.42
:15	58	.40	.62	41.10	38.87	.42
			.80	.60	.25	.32
:30	.47	38.65	.95	41.00	.40	.30
:45	.35	.05				
1:00	.08	37.48				
:15	37.80	36.80	40.12	.06	37.00	.49
:30	.62	.10	.20	.13	36.59	.52
:45	.56	35.60	.18	.29	.32	.40
2:00	.48	34 92	.18	.33	35.00	.30
:15	.30	.50	.25	.40	34.70	.31
:30	.05	33.95	.27	.47		.32
:45	36 83	.51	.21	.47		.22
3:00	.65	32.90	.12	.47		.20
:15	.35		.18	.45	33.60	.11
:30	.08		.29	.42	.88	.10
:45	.63		.30	.41	.07	.10
4:00	.38		.30	.62	32.85	.05
:15	.11		.33	.55	.65	37.99
:30	34.89		.33	.58	.40	38.05
:45	.69		.50	.83	.11	.05
5:00	.41		.56	.85	31.90	.08
:15	.17		.58			
:30	33.85		.63	.81	.70	.10
:45	.74			.90	.47	.10
6:00	.50			42.10	.25	.10
:30	.23			.25		.10
7:00					.10	.11
Maximum of increase of temperature.			0.68	2.59		
Time of max. increase of temperature after the section.			5 hrs. 30 min.	6 hrs. 30 min.		

TABLE 6.—Summary of main results of the sections of the caudate nuclei, crura cerebri, pons and bulb.

	Number of experiments.	Number in which a rise of temperature occurred.	Number in which a rise of temperature did not occur	Average maximum rise of temperature. Degrees	Average time after the section of the maximum rise of temp.
Sections of the caudate nuclei.	6	6	0	2 4	2 hr. 53 min.
Sections of the crura cerebri.	13	10	3	1-22	3 hr.
Sections of the pons	10	10	0	3.73	5 hr.
Sections of the bulb	7	2	5	1.64	6 hr.

A study of the results of these experiments shows that the effects caused by the sections of the caudate nuclei, crura cerebri, pons and bulb are in each case, as a whole, quite characteristic, and that thermo-accelerator centers certainly exist in both the caudate nuclei and the ponto-bulbar region. There can be no reasonable doubt that the cause of the rise of temperature when the caudate nuclei are injured is to be found essentially or solely in an excitation of a thermo-accelerator center, because similar irritation of parts in front of, above and beneath do not give rise to any notable increase of temperature, as should be expected if the nuclei merely represented a pathway of thermo-accelerator fibers which run to or from these parts. Starting then with the caudate nuclei as a point of origin of efferent thermo-accelerator fibers, it is evident that in order to directly or indirectly reach the thermogenic tissues they should be found running through the crura cerebri, pons and bulb into the spinal cord, and that their irritation at any point along this course might be followed by an increase of temperature providing that shock, vasomotor disturbances, etc., do not interfere; and, moreover, that irritation of this thermo-accelerator pathway should cause a less marked increase than when the thermo-accelerator center itself is irritated. A comparison of the figures which illustrate the main results of caudate and crura sections (Table 6) will show that in every one of the caudate experiments a rise of temperature occurred, while in only 10 of the 13 crural experiments was there an increase; and that the increase caused by caudate section was about double that following the section of the crura. The less marked and less rapid rise after crural section is logically to be attributed to one or more of three factors: 1, to the coincident irritation of hypothetical thermo-inhibitory fibers, which run from the cortical centers to the pons and parts below; 2, to the probably more marked vascular disturbances due to the section being nearer the cardiac and vasomotor centers, and 3, to the probable absence of thermo-accelerator cells from the crura. It is by no means likely that the irritation of thermo-inhibitory fibers has any important effect; while kymograph records show that the circulatory disturbances, although more marked as a rule the nearer the section to the bulbar centers, are not sufficient to explain the smaller rise caused by crural section. It seems therefore justifiable to assume that the increase of temperature caused by the section of the crura is due to the irritation of the thermo-accelerator fibers, and that the rise is less marked than when the caudate nuclei are irritated, chiefly because of the absence of thermo-accelerator cells in the former.

This view receives additional support in the results of the experiments in which the sections were made through the pons and upper part of the bulb. In pontine section, as in section of the caudate nuclei, an increase of temperature was not only invariably observed, but it was generally more marked and much more persistent than after sections of the latter, notwithstanding the nearness of the section to the vasomotor center, and the consequent vasomotor weakness and resulting rapid heat loss. The differences in the temperature effects caused by injuries of these two bodies can not apparently satisfactorily be explained except by admitting, as previously stated, the existence of a thermo-accelerator center in the pons and bulb, and that this center is even more powerful than that in the caudate nuclei. In fact, the center must be more potent than is indicated by the actual temperature records, because the rise was undoubtedly more or less

interfered with by the effects of the depression of the vasomotor center. That the center extends for some distance in the bulb is rendered probable by the fact that a marked rise of temperature may still be observed when the section is close to or at the junction of the pons and bulb. In several experiments in which the lobes cerebellum or the cerebellar peduncles were cut, no temperature changes were in any case noted which were at all comparable to those caused by pontine section.

Not only do the mean rises in temperature vary in degree in accordance with the region affected, but the temperature curves exhibit distinct characteristics, and such as to indicate the organ involved. Thus, after section of the caudate nuclei, the temperature tends to increase for approximately three hours on an average and then subside. In the sections of the crura cerebri the mean maximum rise is reached in about the same time, but the temperature curve rises only half as rapidly. In the pontine experiments the rise is not quite

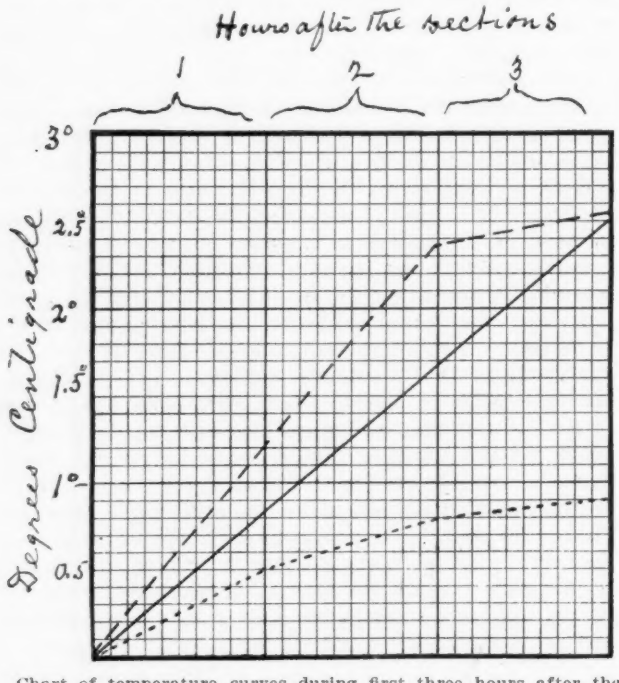

Chart of temperature curves during first three hours after the sections. The broken line is the temperature curve of the caudate series; the unbroken line of the pontine series; and the dotted line of the crural series.

so rapid as in the caudate series, but there is a marked tendency to a steady increase for from 6 to 7 hours or more, or until fatal hyperpyrexia is established. These differences can be better appreciated by a glance at the accompanying chart in which are exhibited composite temperature curves of the caudate, crural and pontine experiments. The marked differences in the mean temperature curves of the caudate and pontine sections indicate that the thermo-accelerator centers in these structures differ at least in power—the latter being the stronger—if not in other important features. That they are functionally different has been shown conclusively in experiments in which I have injected powerful pyretics and antipyretics in large doses after the sections. For instance, after section of the caudate nuclei, and after section of the crura cerebri, the administration of cocain and morphin has no effect upon the temperature changes caused by the section: cocain neither increases the rise nor hinders the fall; nor does morphin hinder the rise or hasten the fall, unless given in such quantities as to seriously affect the circulation, etc. It seems from this that the direct action of both cocain and morphin upon the heat mechanism is upon the thermo-accelerator center in the caudate nuclei. This subject has, however, so important a bearing upon febrile processes, and is of such scope, that a further consideration must be left for a special article.

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DISCUSSION.

DR. R. O. BEARD, Minneapolis—Referring to Dr. Reichert's conclusions I would suggest a possible source of error in his sections arising from the stimulation incident to section of afferent as well as efferent fibers related to the thermotaxic centers. The fillet from the ascending lateral tract of Gowers, which is believed to carry impressions of temperature to these centers, passing upward through the bulb and pons, might easily be involved in Dr. Reichert's pontine and bulbar sections; while lying in the lateral fillet, beyond the pons, it might escape in his sections of the crura. Section has always been a doubtful method of localizing centers.

PERNICIOUS ANEMIA—THE STATISTICS OF A SERIES OF FORTY CASES.*

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This paper is a report of a series of 40 cases of pernicious anemia which have occurred in the service of Dr. Osler in the Johns Hopkins Hospital. No attempt will be made to discuss in any detail the features of the disease or to give any extended notes of the histories of the patients. Cases in which there was any doubt as to the diagnosis have not been included. These 40 patients were among approximately 12,500 general medical admissions.

Incidence.—There were 32 males and 8 females, a rather unusual ratio for which no explanation can be given. The general admissions are about 5 males to 4 females. Large series show little difference in the number from each sex. As to age, the distribution was: 1 to 10 years, 1 case; 11 to 20, none; 21 to 30, 7 cases; 31 to 40, 6 cases; 41 to 50, 13 cases; 51 to 60, 7 cases; 61 to 70, 6 cases. It will be observed that four-fifths of the patients were over 30 years of age. The youngest was aged 10 and the oldest 66 years. In regard to race there were only 2 colored patients in the series, a proportion of 1 to 19, while the general ratio of admissions is about 1 colored to 7 white patients.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section: Frank Billings, George Dock and J. M. Anders.

Etiology.—There seemed but little of importance found in regard to this. In only one of the females did a previous confinement seem in any way connected with the onset. Mental distress and worry did not figure to any extent, there being only 3 patients who gave a history of these, although an unusual number of them were in the private wards. There was a tuberculous family history in 7 cases. Four had a history of syphilis and 14 of malaria. Previous stomach trouble had occurred in 5 and 12 had used alcohol. In one the onset followed a severe carbuncle. In the earlier cases the condition of the mouth was not noted carefully, but in the last 10 cases; carious teeth or some septic process in the mouth occurred in only 4 instances.

Complaint.—It is of interest to note the symptoms of which the patients themselves made complaint. The largest number, namely, 23, complained principally of weakness. In 11 the gastric and bowel symptoms were most marked. Four came only on account of nervous manifestations; 2 complained of the discoloration of the skin.

Onset.—The first symptom noted was weakness in 14 of the series. Weakness associated with some other condition in 9, dyspnea in 9, and digestive disturbances in 8 instances.

Symptoms.—In the histories given by the patients, of the symptoms mentioned especially, weakness was most frequent, namely, in 26 cases, change of color in 25, loss of weight in 22—a rather surprisingly large number as the usual description of the disease lays emphasis on the absence of emaciation—and shortness of breath in 16 cases. Digestive disturbances with diarrhea were present in 11 and gastric symptoms alone in 8 instances. Hemorrhages from the mucous membranes had occurred in 9 cases, and in 8 there had been some edema. Of the nervous manifestations, 4 gave a history of various sensory conditions usually tingling and numbness, one of severe pain, one of paraplegia, one of mental changes, and five of varied symptoms such as difficulty in walking, stiffness of the legs, etc.

Examination.—Of the conditions found the following were the most important. Marked emaciation was noted in 10 instances. The typical lemon-yellow color was observed in 29, and in 7 there was marked pallor without any special yellow tint. Pigmentation of the skin apart from the general discoloration was present in 8 and in 4 petechiæ were found.

In the circulatory system there was marked visible pulsation of the vessels in 16 cases. An apex systolic murmur was heard in 15, a systolic murmur everywhere over the heart in 13, and in one instance a systolic murmur was heard only in the pulmonic area. A loud systolic bruit was heard over the vessels of the neck in 12, and in 5 the complete absence of any such murmur was noted. In the examination of the abdomen, the liver was only felt in 2 instances. The spleen was felt in only 6 cases and in none of these was the enlargement at all marked, it being noted in all that "the spleen was just felt." There was marked general glandular enlargement only in 3 cases, and in 5 the majority of the glands were enlarged. Hemorrhages from the mucous membranes occurred in 8 patients during their stay in the hospital. Edema was present in 7 cases. As already noted, only in 4 out of at least 10 cases was a specially septic condition of the mouth noted.

The temperature was practically normal throughout their stay in the hospital in 10 of the series. In 27 it was more or less elevated, in 20 of these the average elevation being about 101, while in the remaining 7 it varied from 101 to 106. Three were under observation for too short a time to obtain continued records. The urine was free from albumin in 23 cases. In the remaining 17 it was present, but only in very slight amounts. In no instance was sugar found. The reaction in 37 was acid, in one neutral and in 2 alkaline. The specific gravity in 10 was below 1010, in 24 between 1010 and 1020, and in 5 between 1020 and 1030.

While the patients were under observation the gastro-intestinal symptoms were as follows: As regards the stomach, in 22 there were no disturbances of any kind; of the remaining 18 the symptoms were slight in 14 and grave in 4 instances. The bowels were normal in 16 cases, constipation was present in 14, diarrhea in 8 and alternating constipation and diarrhea in 2 instances.

Nervous manifestations were present in 10 instances. These varied from sensory disturbances alone to complete paraplegia. The cases showed so many differences that it was found impossible to classify them under any definite headings. The prevailing type was one with some sensory disturbances, especially in the extremities, associated with a more or less marked spastic condition. There was complete paraplegia in one, loss of power over the bladder in one, and marked incoördination with absence of the knee-jerks in one instance. Some degree of incoördination was frequently found. In some of the patients the nervous symptoms progressed while they were under observation, but in others some improvement was noted.

Blood.—Full counts were obtained when they first came under observation in 36 patients. The average of these was: Hemoglobin, 30 per cent. (von Fleischl); red corpuscles, 1,560,000 per c.mm.; white corpuscles, 6929 per c.mm.

Complete differential counts[1] were made in 30 of these, the average of the series being: Polymorphonuclears, 61 per cent.; small mononuclears, 31 per cent.; large mononuclears and transitionals, 4 per cent.; eosinophiles, 2 per cent. There were small numbers of myelocytes found in some of the cases, but never any marked percentage; the average was less than 1 per cent.

The average number of nucleated red cells found in counting 1000 leucocytes was 37. Of these the average of each variety was: Normoblasts, 23.4; megaloblasts, 4.7; intermediate forms, 9.4.

These figures are for the series of 30 cases. But among these there were three cases in which nucleated red cells occurred in very large numbers, namely, 262 (of which 222 were intermediate forms), 124 (of which 120 were normoblasts) and 420 (all of which were normoblasts) per 1000 leucocytes. If these three rather unusual cases be removed from the series, the average number of nucleated red cells per 1000 leucocytes for the remaining 27 cases is 12.7, and of these there were of normoblasts, 6; megaloblasts, 4.7; and intermediate forms, 2.

It is of interest to compare the differential counts in the fatal cases with those in the cases discharged improved. There were 11 of the series with a fatal termination. The relative percentages are the following:

	Death (11).	Improved (19).
Polymorphonuclears	62	61
Small mononuclears	29	31
Large do. and transitionals	4	4
Eosinophiles	2	2

1. For this as a routine, Ehrlich's triple stain was used. The classification of the leucocytes is that of Ehrlich. The fractions of percentages are not given.

The average number of nucleated cells per 1000 leucocytes along with the number of each variety was:

	Death.	Improved.
Nucleated red cells	23	47
Normoblasts	7.6	34
Megaloblasts	11	1
Intermediate forms	4	12

If, however, the three cases referred to before with the large number of nucleated red cells—all of which were discharged much improved—be subtracted from that series, we obtain very different figures, namely, an average per 1000 leucocytes of only 6.8 nucleated reds in the cases that improved, of which there were: Normoblasts, 5; megaloblasts, 7; intermediate forms, 1.

It will be noted that the average percentage of small mononuclears was lower in the fatal cases than in those that improved. This is contrary to the generally accepted view that a high percentage of these cells is of unfavorable prognostic importance. This also meant a lower absolute number of small mononuclears, as the average leucocyte count in the fatal cases was lower than in those that improved. There is also a striking difference in the average number of the nucleated red cells per 1000 leucocytes found, namely, 23 in the fatal to 7 in the non-fatal (if the three cases before mentioned be left out of the average). The variation in the relative ratios of the various forms is marked. The normoblasts comprise only 33 per cent. of all nucleated forms in the fatal and 73 per cent. in the ones that improved. The megaloblasts were 48 per cent. in the fatal and 14 per cent. in the non-fatal series. The percentage of the intermediate forms in the fatal cases is 17 per cent. to 14 per cent. in the non-fatal series. This rather suggests that as regards prognosis no special conclusion can be drawn from their occurrence.

There were 16 cases in the series with the counts of the red corpuscles below one million per cubic millimeter. Of these twelve died in the hospital. Of the remaining four, one apparently recovered completely and was admitted six years afterwards with cancer of the stomach, a second has lived for over three years and is in fairly good condition at present, while the other two can not be traced. In no one of these four cases did the red count fall below 900,000 per c.mm. In two of the fatal cases the last count before death was over one million red cells.

Results.—Death occurred in the hospital or shortly after discharge in 17 of the series. The average duration of these was practically twelve months. Eight of them, however, ran the whole course in less than six months. Fourteen were discharged improved; one of these apparently recovered completely; one was followed for four years; one is alive nearly six years afterwards, and another three years afterwards. Seven were discharged unimproved and two were not treated. The average duration of the non-fatal cases was sixteen months at the time of their admission. Twelve of these patients made substantial gains in weight. The nervous symptoms showed varying results; some progressed while under observation, and others showed gain. There was no uniformity in their course.

Treatment.—This may be alluded to briefly. It consisted generally of absolute rest in bed, fresh air, abundant good food, and arsenic. Attention was paid to the condition of the mouth, especially in the later cases. Conditions arising in the course of the disease were treated symptomatically.*

* The Discussion on papers on "Blood Count," was printed August 4, page 503.

THE PHARMACOLOGY OF THE SUPRARENAL GLAND AND A METHOD OF ASSAYING ITS PRODUCTS.*

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Addison was the first, in 1855, to point out the great importance of the adrenals to the animal economy, showing that the disease now bearing his name was due to lesions, usually tuberculosis, of these bodies. The following year Brown-Séquard demonstrated experimentally that these glands: "1, are essential to life; 2, that they modify or destroy a substance which otherwise transforms itself into pigment; 3, that when the organs are destroyed or removed this substance collects in the blood; 4, that removal is rapidly fatal, and injection of the blood of an animal thus treated into a healthy animal leads to symptoms like those of removal." Gratiolet, Phillipeaux and Harley disputed these findings, but Brown-Séquard by another series of experiments showed that his previous conclusions were correct. Brown-Séquard's conclusions were a little later confirmed by Tizzoni. Vulpian and Virchow also in 1856 showed that a reducing agent was contained in the medulla of the suprarenal bodies, which has been observed by all subsequent chemical investigators.

Arnold, in 1866, obtained a crystalline body, but this could not be confirmed in the following year by Holm. Krukenberg, in 1885, showed that the color reactions were possibly due to pyrocatechin. This was confirmed by Brunner in 1892. Marino-Zucco, about the same time, obtained considerable quantities of neurin from these bodies, while Dutto found that neurin was present in the urine of patients suffering from Addison's disease. Marino-Zucco and Guaruceri in a later series of papers were able to show more conclusively that neurin was the toxic agent present. Moore, in 1894, made an extensive chemical study of the question and showed that the blood pressure raising substance contained in these glands was likewise the chromogenic substance of Vulpian. Fraenkel, in 1896, obtained a possible pyrocatechin derivative which he names "sphygmogenin." Moore disputed his findings and concluded that the active substance was a pyridin derivative. The same year Muhlmann, however, obtained a pyrocatechin compound. Abel likewise, in 1896, published the first of a very important series of papers in which he described a number of crystalline compounds, giving their chemical and pharmacological properties, which he had succeeded in isolating from the suprarenal glands. He concluded that the active substance was of the formula $C_{17}H_{15}NO_4$ and named it "epinephrin." Von Furth isolated a substance the following year, calling it "suprarenin," which he supposed to be different from epinephrin. Takamine and Aldrich, working independently in different laboratories on the question last year, referred to me about the same time for pharmacologic examination crystalline compounds which they had obtained from these bodies, which are extremely active and are probably identical, as shown by Aldrich. The name "adrenalin" has been given to the product obtained by Takamine.

Pellacani, in 1874, reported the results of some ani-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon, and N. S. Davis, Jr.

mal experiments, ten years later giving a more detailed report on the subject in conjunction with Foa. These investigators injected subcutaneously and intravenously into dogs, guinea-pigs and rabbits, varying sized doses of a filtered aqueous extract of these organs. Often the animals showed no symptoms at the time of the subcutaneous injection, but were found dead the following day; others showed more or less muscular prostration and paresis; some vomited and developed symptoms of dyspnea, and apparently a few of the animals died from respiratory paralysis. Intravenous injections produced besides respiratory symptoms, at first quickening, later slowing and weakening of the heart, some of the animals becoming partially paralyzed; they found likewise that extracts of liver and kidney produced death when administered in the same manner. The results of their experiments were of little value, as shown by Alexander, Mattei and later workers. Langlois and Abelous showed that the toxemia produced by removal of these glands could be prevented by the injection of extracts of healthy glands, and that the injection of blood from acapsulated animals produced results similar to those following removal.

Several theories have been proposed to explain the function of the suprarenal glands, the most plausible being that they form a substance of vital importance to the animal economy; another receiving but little support is that an antitoxin is elaborated which neutralizes various toxic substances produced in the body. Oliver and Schafer, in 1894, published the first of a series of papers which shed much light on the subject. They support the former of these theories, finding that extracts of the medullary portion of these bodies exert a marked influence upon the striped and unstriped muscles; and produce great increase in blood pressure, from their stimulant action on the heart, blood vessels and centers in the medulla. Negative results were obtained from extracts of glands obtained from cases of Addison's disease.

Gottlieb concluded from his investigations that the active substance of the suprarenal gland increased the heart's action by stimulating the cardiac motor ganglia. He found that injection of the extract with compression of the thorax would cause the heart which had stopped beating from chloral hydrate to recommence pulsating. This fact, which has been confirmed by Radziejewski, may be of much therapeutic importance. Howell has shown that the adrenal vein contains more of this active secretion than other veins of the body. Biedl, in 1896, found that the blood pressure is enormously increased from the injection of suprarenal extracts even after section of the medulla and destruction of the spinal cord. Cleghorn showed upon the islolated mammalian heart that an extract of the adrenals produced a great increase in the force of the contractions, while similar extracts of other animal tissues had but slight influence. Wallace and Mogk found that suprarenal extracts produce a marked rise in the systemic blood pressure by contraction of the arterioles, no rise occurring in the pulmonary circulation; the heart is slowed from vagus stimulation; the heart muscle is directly stimulated, resulting in an increase in the number and force of its contractions, and that the entire action of the drug is a very fleeting one and passes off in from one to ten minutes. Hunt showed last year that suprarenal extracts contain a substance which produces lowering of blood pressure when injected into the circulation, but since the blood pressure is always greatly raised by even very minute quantities of fresh preparations, it is probably of little practical importance therapeutically.

As I pointed out last year in a paper before this Section, the rise in blood pressure varies with the amount of the active substance injected intravenously. This reaction is so constant, as shown by hundreds of experiments since the former paper was written, that it has been found, as will be shown subsequently, a very valuable means of determining the amount of active substance contained in a given preparation.

We may briefly summarize our knowledge of the pharmacologic action of the various preparations of the suprarenal gland as follows:

Transient paralysis is observed in frogs when extracts of the suprarenal or its active principle are injected into the abdominal lymph sac and death may result, if the dose be sufficiently large.

Bates, who first proposed the use of the suprarenal gland for therapeutic purposes, is of the opinion that it serves as a useful heart tonic when administered per os, but it is doubtful, judging from the results obtained in the laboratory, if sufficient quantities are ever absorbed from the alimentary canal to produce symptoms of its action. When large doses are injected subcutaneously into dogs, guinea-pigs, etc., local irritation sometimes followed by suppuration is noticed. If sufficient quantities are absorbed, excitement followed by paresis of the hind limbs, accelerated respiration and dyspnea are often noticed, and death from respiratory failure occurs. I am having a series of experiments made to determine the best methods of administration. Extremely small quantities of fresh extracts, epinephrin or adrenalin, when injected intravenously, produce almost instantly marked rise in blood pressure with slowing and strengthening of the heart beats. This rise in blood pressure is due mainly to contraction of the muscular coat of the arterioles from the local action of the substance on their walls, as is shown by perfusion experiments on frogs, etc., the stimulation of the heart muscle itself and the stimulation of the vasomotor center. The slowing of the heart is due to stimulation of the vagus center. The heart muscle cells are stimulated, the systole becoming more complete while the diastole is less perfect. In fact, except for the very fleeting influence on the circulation one might compare the action of the suprarenals to that of digitalis.

Preparations of the suprarenal gland and its active principle have been employed for numerous purposes. It has been applied with marked success as a local hemostatic to nearly all parts of the body, to prevent hemorrhage during operations, to check postpartum hemorrhage, hemorrhage from the stomach, to allay local inflammation, etc. Injected into the vein or the heart in cases of collapse during anesthesia is one of the latest suggestions; in extreme cases this may be of much importance, as unlike the digitalis series of heart tonics its toxic action is very slight.

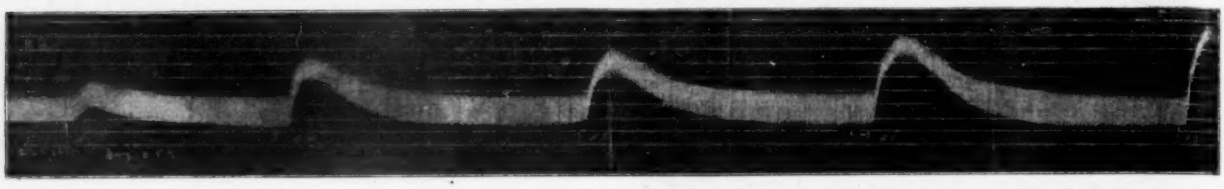
Until recently the dried and powdered glands with or without milk sugar were the products generally employed in therapeutics. Frequent attempts were made to exhibit a liquid preparation, but it was necessary to add some antiseptic, as thymol, boracic acid, chloretone, etc., to prevent decomposition. Since we have no chemical means for assaying these products, it seemed advisable to work out a physiological method that could be readily employed by manufacturers to determine the strength of their products. As the result of investigation along numerous lines, the following method, which

is based on the sub-maximum blood pressure obtained by injecting intravenously the preparation, dissolved in water, having removed the inert material as far as possible, and comparing the blood pressure tracings obtained with those obtained from the same animal by injecting a known quantity of a preparation of standard activity, has given me the most satisfactory results.

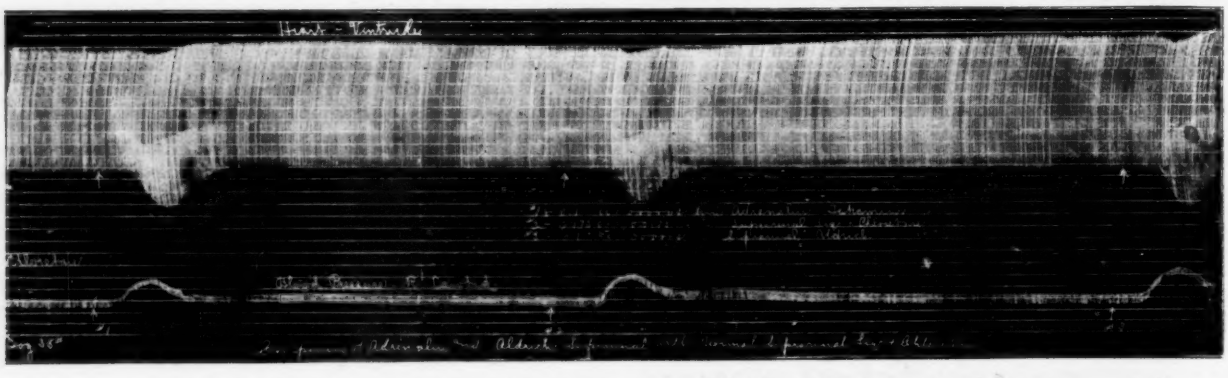
Hypodermic syringes, surgical instruments of various kinds, small glass canulæ, and a large-sized kymograph, with manometer arranged for taking blood pressure tracings, on continuous rolls or smoked paper, are required. The paper, whether smoked or not, should have linear rulings .5 cm. or less apart, for convenience in reading the results. Two kinds of tracings may be obtained, complete ones, where the drum is kept in constant motion, and abbreviated ones, where the drum remains at rest until the reaction is complete. If a carbon paper is employed, one or more sheets will be necessary to obtain detailed results. (See tracings Nos. 1 and 2). However, usually abbreviated tracings (See tracings Nos. 3 and 4), which gives only the maximum blood pressure obtained from each injection, are quite sufficient.

Various animals may be employed, but dogs of medium size give the best results. In any case the animal should be completely anesthetized. Since it is of great importance that the blood pressure does not fluctuate from the action of the anesthetic, I always employ chloretone given per os, instead of chloroform or ether for this purpose. Also because of the long-continued action and ease of administration, chloretone is especially valuable for this work, as the blood pressure and action of the heart remain constant for many hours.

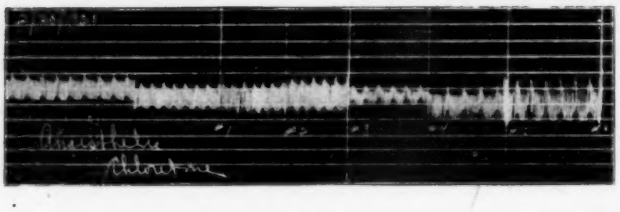
After the animal is anesthetized the hair is clipped from the throat, the tissues severed and a glass canula of suitable size is tied in the common carotid artery,



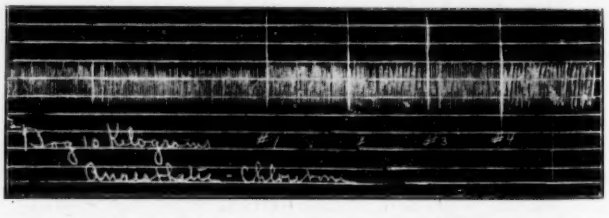
No. 1.—Complete tracing showing variations in the blood pressure from the intravenous injection of different amounts of adrenalin.



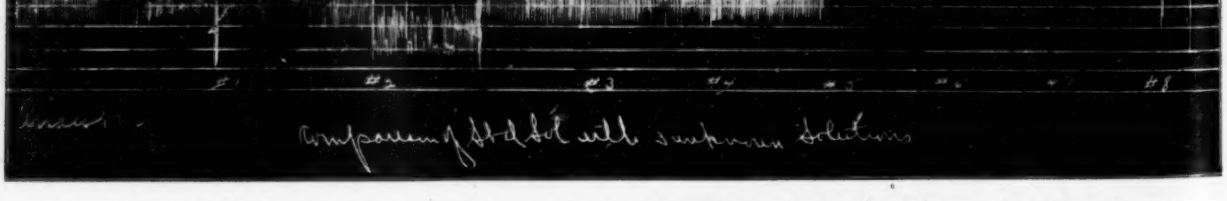
No. 2.—Complete tracing showing action on heart (above) and blood pressure (below).



No. 3.—Abbreviated blood pressure tracing.



No. 4.—Abbreviated blood pressure tracing showing the comparative action of two solutions of adrenalin. The solutions were of exactly the same strength, but the person making the assay supposed they were of different strengths until he had proven by experiment that they had the same influence on blood pressure.



No. 5.—Abbreviated tracing showing the comparative action of two solutions of adrenalin of different strengths.

which in turn is connected with a tube filled with half saturated sodium carbonate solution, to prevent the blood from clotting, leading to the manometer. The solutions—adrenalin or preparations from the suprarenal gland—for injection should be very carefully prepared, and of such a strength that they can be readily diluted in case the primary injection is found to produce too marked a rise in the blood pressure. The injections may be made either in the jugular vein or into the femoral vein, preferably the latter. As will be noticed from tracing (No. 5) an injection of the preparation that is being assayed is preceded or followed by the injection of a known quantity of a standard preparation. Sufficient time should be allowed after each injection for the blood pressure to return to the normal. The two tracings are compared, and in case the increase in pressure is not the same the solutions should be so diluted that the increase in pressure is the same, but in each case less than the maximum height. In no case, however, should a conclusion relative to the strength of a preparation be reached from the results obtained from a single animal; usually three should be employed. The animals, of course, are destroyed as soon as the experiment is completed.

At first I employed a freshly-prepared aqueous extract, 1 c.c. representing 1 gram of the fresh suprarenal gland as a standard. However, since the standard in this case varied somewhat in strength, because of oxidation, decomposition, variable amounts of blood-lowering principle, etc., the results were not entirely constant. Some months after commencing these studies, Drs. Takamine and Aldrich each supplied me with a crystalline product from suprarenal glands, which, on comparing its activity with the freshly-prepared aqueous extract, proved to be from 600 to 800 times as strong, and since it does not undergo deterioration, I have adopted it as a standard for assaying other preparations. Usually this active principle, adrenalin, is made up in solution of 1 to 10,000, a trace of hydrochloric acid being added, the same amount of hydrochloric acid being added also to the aqueous solution prepared for test purposes from the preparation which is to be assayed. It is of paramount importance in employing this method to keep the conditions during the experiment always constant.

One of my assistants, assaying unknowns prepared from adrenalin, obtained the following results, which show the reliability of the method. Similar results have been frequently obtained, and justify the employment of this method of assay until we can devise a better one.

TABLE.

Determination of the strength of three samples of adrenalin of unknown strength by comparing with a solution of known strength:

Standard.	Actual strength. 100 per cent. Standard.	Reported Strength. Standard.
A	85 "	88 per cent.
B	40 "	40 "
C	130 "	135 "

Adrenalin in crystalline form seems to be, as would be expected, a very stable product. On the other hand, experiments to determine the relative activity of different preparations of the suprarenal gland show quite conclusively that the liquid and powdered preparations, manufactured by the same firm, if not assayed, differ very markedly in their influence on blood pressure. In general I have found that the fresher the product the greater the uniformity in the activity.

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THE BLOOD-PRESSURE RAISING PRINCIPLE OF THE SUPRARENAL GLAND.*

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Over forty-five years ago Addison directed attention to the relation between a disease bearing his name and certain changes in suprarenal glands. Since then many able investigators studied the nature of this interesting organ and have established beyond doubt that the suprarenal glands possess a marvelous therapeutic value.

The principal investigators in the line of the use of the therapeutic properties of the glands are Brown-Sequard, Oliver, Schafer, Pellacani, Foa, Vincent, Cybulski, Bates, Moore, Swain, Solis-Cohen, Mayer, Reichert and others.

Since the therapeutic value became known many attempts to isolate the active principle of the glands have been made by several physiological chemists. Among these we may mention Prof. J. J. Abel of Johns Hopkins Hospital, Dr. B. Moore of London University and Dr. O. v. Furth of Strassburg.

Professor Abel published the result of his investigation first in 1897. Subsequently, two or three papers on the same subject were published, wherein he announced and claimed that he had isolated the active principle of the gland in the form of its bisulphate and other salts, and named such active principle "epinephrin."

Shortly afterwards O. v. Furth reported the result of his investigation on the gland and criticised Abel's epinephrin, declaring that it is not the pure active principle, but inactive foreign matter contaminated with some of the active principle. Furth claimed the isolation by different methods in the form of iron compound and called his product "suprarenin."

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Abel obtained his epinephrin by treating in an autoclave benzoyl compound obtained from the gland extract with benzoyl chlorid and sodium hydroxid after the Baumann-Schotten method; while Furth obtained suprarenin from the filtrate in which Abel considered his epinephrin did not exist.

The dispute between these two authors was not altogether amicably solved, for neither of them did obtain their product in sufficiently pure form.

Since last summer I have devoted my attention to this interesting subject and am pleased to announce that I have succeeded in isolating the active principle of the gland in a stable, pure, crystalline basic form.

While I do not desire by any means to usurp the credit due to the pioneer investigators, yet in view of the fact that neither of the authors quoted above have obtained the active principle in pure form and that there still exists some room for controversy between them, I have termed the active principle of the gland as I have isolated it, "adrenalin."

Adrenalin is a light, white, micro-crystalline substance. I have observed thus for five different forms of crystals varying according to the condition of the solution from which they were crystallized, and they are prism shape, fine needles, rhombic plates, boat or leaf shape, and wartlike shape.

Adrenalin has a slightly bitter taste and leaves a numb feeling on the tongue where it has been applied. In dry form it is perfectly stable. Adrenalin shows a slightly alkaline reaction on moistened litmus paper; phenolphthalein also indicates slight alkalinity. It is with difficulty soluble in cold water and more readily in hot water. From the hot saturated aqueous solution the crystals separate on cooling. The colorless aqueous solution of adrenalin is prone for oxidation. It absorbs oxygen from the air, changing its color from pink to red, and eventually to brown.

Adrenalin is easily soluble in acids, forming various salts. It is also soluble in alkalies, but not in ammonia or a solution of alkaline carbonate.

The following are some of the characteristic reactions: The addition of ferric chlorid to a solution of adrenalin or adrenalin salts produces a beautiful emerald green, which by careful addition of caustic alkali, becomes purple and then carmin red. It produces pink coloration with iodin and also with ammonia. It reduces silver and gold salts very energetically, and it produces a beautiful coloration at the proper strength of the solution. Oxidizing agents such as bichromates and ferricyanides behave in a similar manner.

None of the following alkaloidal reagents produces precipitation: Mercurio-potassium iodid, picric acid, tanic acid, phospho-molybdic acid, phospho-tungstic acid, mercuric chlorid, potassium bichromate and platinum chlorid.

The mode of preparing the active principle of the suprarenal glands is as follows: Suprarenal capsules finely disintegrated by suitable means are steeped in water for a period of about five hours at the temperature varying from 50 to 80 degrees centigrade, with frequent agitation and with the addition of water as it evaporates. The temperature of the mass is now raised from 90 to 95 degrees centigrade for the period of one hour, so as to coagulate as much albuminoid bodies as possible.

As the active principle of the glands are prone to absorb the oxygen from the air, to form inactive substance, it is necessary to avoid the exposure of the liquid to the air as much as possible. A layer of fat floating on the surface of the mass acts very conveniently for this purpose and at the same time it has an effect of retarding evaporation of water as well. The other method of preventing oxidation may be employed at this stage, such as carrying the steeping process in the atmosphere of carbonic acid gas. The mass is now pressed and separated from the liquid portion which contains the active principle. The residual mass is again steeped for hours in warm water, slightly acidulated with acetic or hydrochloric acid, in order to extract the residual amount of active principle. The liquid separated from the mass is now added to the first extract and allowed to separate from the oil. The clear extract is now evaporated in a vacuum pan to a suitable strength. To this concentrated solution about two to three times its own volume of strong alcohol is added, which will precipitate both inert organic and inorganic substances. The inert substances thus separated are washed with alcohol, so as to free them from the active principle. The alcohol solution is now evaporated preferably in vacuum still, whereby the alcohol used is duly recovered. To the residual liquid, ammonia is now added until the solution gets distinctly alkaline and left over for several hours. Yellowish precipitate will be formed, which is the crude adrenalin in a basic form. The precipitate is now filtered, washed with water and dried. The adrenalin usually precipitates in a light yellowish tomato-shape form, which is an agglomeration of the needly crystals under magnifying power, and is more or less contaminated with some coloring matters and some inorganic substance, chiefly phosphates.

Instead of using ammonia, sodium hydrat may be used as a precipitant, but care must be taken not to use in excess, which redissolves adrenalin. The caustic alkali may be used with advantage in the conjunction with ammonium chlorid, or caustic alkali may be used, and afterwards carbonic gas may be passed to remove the excess of caustic alkalies. In fact, the various modifications and combinations of these processes may be adopted.

In order to further purify the adrenalin, the crude adrenalin is dissolved in acid and alcohol and ether are added to a sufficient quantity. A brown-colored precipitate is produced, which chiefly consists of coloring matter and inorganic impurities. The precipitate is separated both by decantation and filtration. The filtrate is now treated by one of the above-mentioned processes, when white crystalline precipitate of adrenalin will be obtained. It is quickly filtered, washed with water and then with alcohol and dried. The process of purification may be repeated if desired.

The physiological activity of adrenalin thus isolated is astoundingly strong. A fraction of one drop of aqueous solution of adrenalin or its salt in strength of 1 to 50,000 blanches the normal conjunctiva within one minute. It is the strongest hemostatic agent known.

The intravenous injection of adrenalin produces a powerful action upon the muscular system in general, but especially upon the muscular wall of the blood vessels and the muscular walls of the heart, resulting in an enormous rise of blood pressure. The accompanying diagram shows the result of three intravenous injections of 1 c.c. of the solution of adrenalin chlorid of 1 to 100,000 into a dog weighing 8 kilograms. It raised the blood pressure corresponding to 30 millimeters of mercury.

The above result, as well as other experiments, indicate that adrenalin is over one thousand times stronger than the fresh glands.

The therapeutic applications of adrenalin are already numerous and new uses for it are constantly found out by investigators. Generally speaking, adrenalin when locally applied is the most powerful astringent and hemostatic known. It is useful in all forms of inflammation and is the strongest stimulant of the heart. It is non-irritating, non-poisonous, non-cumulative and without injurious properties. It has been used with good results in morphin and opium poisoning, in circulatory failure, in the prevention of collapse in anesthesia, and in allied conditions. It is invaluable in carrying out bloodless operations in nose, eye, ear and throat works. It has also given good results in some cases of deafness, hay fever, nasal hemorrhage and various forms of heart disease. Such authorities as Drs. Mayer, Wilson, Bates, Reichert, Ingals, Stucky, Johnson, Chambers, Curtis, Swain and many others have reported very favorable results.

A convenient form to use the adrenalin is in solution of its chlorid one part of adrenalin in one thousand parts of water. It was found desirable to add sodium chlorid to form normal salt solution. In order to insure the stability of the solution, one-half per cent. of chloroform-acetone or chloretone is added with advantage.

Adrenalin can be made in the form of tablets, usually tartrate. The tablet may be made with sodium chlorid and chloretone, so that when it is dissolved in a known quantity of water it forms a solution of desired strength.

The therapeutic efficacy of adrenalin has already been established beyond doubt, and it will unquestionably obtain a prominent place in the materia medica.

In concluding this paper, I desire to state that my thanks are due to Dr. E. M. Houghton, of Detroit, for making the physiological test, and also my thanks and large share of credit are due to Mr. Wooyenaka, my associate, for his energetic and able assistance in accomplishing this interesting investigation.

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NEGLECTED, BUT VALUABLE THERAPEUTIC MEASURES.*

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In medicine the law of action and reaction is peculiarly evident in therapeutics. Remedies arise, are boomed and disappear. Some markedly efficient are flung into the background, not because of lack of value, but because of popular prejudice arising in the minds of neuropaths and for commercial reasons affecting physicians. The influence of sects in medicine in this particular is much less than is usually assumed. Sects based on opposition to any therapeutic procedure are expressions of the opinion of neuropaths rather than their cause. Such sects notoriously long retain primitive therapeutic procedures which the profession has outgrown.

Hahnemannism retains the skatologic procedures which the profession long ago rejected with disgust. Thus a Boston homeopathic firm issues a price-list of so-called animal remedies. This offers for sale at a fixed price, on page 20, potentized pediculi pubis, pediculi capitis and pediculi corporis. "Culture" would seem to have something to do with the last mentioned, for their Bostonian origin is especially dwelt upon. Page 1 offers the "acarus scabies" or "lice insect;" page 15 offers "lachryma filiæ" or "tears from a young girl in great suffering;" "carbunclus of the neck very severe" is tendered as a remedy on page 6, and page 7, in addition to the lice insect, offers adenia from the glands in Hodgkin's disease, the ailanthus "bug" and "albuminuria" or "renal albumin." "Fel gryllus Americana" or "Brazilian cricket" is offered on page 11 as a remedy for "suppression of urine." Page 2 offers "anthracin" or pus from an anthra. Page 4 offers "buboin" or pus from "syphilitic bubo." Page 5 offers "calcarea or stone of the kidney, bladder and lungs." Intestinal bladder and nose catarrh are offered on page 6. Page 7 offers a preparation of "chancre of syphilis." Page 8 offers "colostrum;" page 9, "crotalin" from the rattlesnake, as well as "diabetes mellitus" and "dropsy-semen." Cancer of the uterus, bowel, face and breast are also offered; as is also "hippozinine" from glanders, "lyssin" from hydrophobia, "osteonecrosis" pus from rectal abscess, from "caries of heel" and from septic abscess." "Electricitas" or electricity; "galvanismus" or galvanism; rubrum, flava and ceruli irides, or the red, yellow and blue rays of the spectrum, as well as "Luna" or moonshine, are also tendered as therapeutic aids to the enthusiastic Hahnemannian.

Together with these fetichistic absurdities, Hahnemannism long retained the general therapeutic procedures of the period in which it was born. Although Hahnemann claimed that the homeopathist dispensed with the necessity of employing the barbarous practice of blood-letting[1], he asserted that beginners and learners may be pardoned for using depleting processes; but if they dare to pride themselves on their pretended improvements and promulgate blood-letting and cupping as processes that are eminently homeopathic, then they make themselves ridiculous, and they ought to be pitied for their dabbling and for their bungling blindness which inflict suffering on their patients. It is laziness or a foolish predilection for the pernicious routine of allopathy, which prevents them from making themselves acquainted with the true homeopathic remedy.

This is the old story of the modern "go-as-you-please" homeopathist, who uses pellets in conjunction with ordinary medicine, but refers the cure to the pellets. The New York homeopathists adopted this system. Dr. Gray, one of the leaders, remarks[2]: "Blood-letting I have not ceased to employ during the eighteen years of my acquaintance with homeopathy. At first, by advice of my learned and lamented predecessor, Dr. Gram, it was continued on purely empirical grounds, but now, and for many years past, I apply it upon the homeopathic basis, having acquired, partly by experiment, partly by reading allopathic authorities to that end, a tolerable pathogenesis of it."

The disuse of blood-letting was simply a consequence of the pandering to popular prejudices for commercial reasons. The persons who had abused venesection joined loudest in the outcry against it. Despite prejudice, based on the fetichistic notion that the life is the blood and allied cant of the followers of Hahnemann and Thompson, blood-letting has held its own, in certain departments of medicine; with the growing knowledge of biochemistry, especially as involved in the blood serum, it is again beginning to assume its old place in

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1. Chronic Disease, vol. vi, p. 177.
2. Homeopathic Examiner, vol. iv, 1845.

therapy. The former claim that blood-letting would quickest remove toxic products from the body, which could then be replaced with watery solutions similar to blood serum, is now strongly corroborated by the results obtained through the use of the normal salt solution.

Through the influence of the surgical operation per se, it was very emphatically pointed out some years ago by J. Williams White, Philadelphia, that but little use of this knowledge has been made. The principal use which emphasizes study of its limitations and indications has been the improvement of peritoneal tuberculosis under simple abdominal section. The rationale of this improvement is readily grasped when the fact is remembered that leucocytes are drawn toward the peritoneum by such an operation, and this would have a profound influence on the general circulation. In consequence of this, too, the leucocytes would be peculiarly stimulated toward phagocytic action in the peritoneum.

For a long time alienists have observed that traumatism exercises a beneficial influence (too frequently but brief in duration, but none the less patent) on chronic forms of insanity. Dements who have accidentally fractured a limb have been noted to improve during the period of recovery and for some time thereafter, when relapse usually takes place. In acute types recovery under these conditions is often permanent. It has also been noted that in families where idiots abound, skull fracture in infancy has led to the disappearance of the idiocy in the victim of the fracture, who, not only becomes sane, but may manifest a high order of intellect. The Australian novelist, Clarke, when a child, had a skull fracture. This was also the case with Vico, Gratry, Fusinieri, Clement VI, Malebranche and Cornelius. To skull fracture in the last three was due, as Lombroso has shown, their genius. I cite the facts simply to show that in the much neglected therapeutic procedure of counter-irritations there are therapeutic possibilities far from being realized. These procedures have fallen into disuse not because of their lack of value, but because of a popular desire for cosmetic therapy.

In no small degree, also, has this desire led to the separation of balneotherapy and hydrotherapy from pharmacotherapy. On principles whose validity is thoroughly recognized, infusions were at one time largely given in connection and coincident with baths. Clinical observation leaves no doubt that this conjunction of therapeutic measures had decidedly beneficial effects. The use of water as an alterative is now more generally recognized than at any other time, yet its employment as an adjuvant because of its alterative qualities, was never more neglected than at present. At the beginning of the century, as the American Dispensatory shows, the Brandt treatment of typhoid by balneotherapy was successfully used in the United States. From a survival of the Brandt treatment came the Kibbee treatment of yellow fever, which gave undeniably good results in the late seventies.

These early observers recognized not only the influence of balneotherapy and hydrotherapy per se, but the influence of these in extending and increasing the field and effect of pharmacotherapy. Homeopathy, distorting the essential element of the therapeutic procedure, caused its disuse. The dilution absurdity of high potency homeopathy destroyed faith in it among the scientists, at the same time creating prejudice against the correct application of the principle among laymen. The value of the principle, however, was fully sustained by the results obtained at mineral springs, but these were ascribed to the chemical constituents of the water. While, as in the case of the Hot Springs in the treatment of syphilis, evil has been wrought, it has been wrought by the reliance on the balneotherapy alone, to the neglect of other therapeutic agents as co-adjuvants. The value of these procedures when conjoined has been fully demonstrated by their use in auto-toxemias with neurasthenic elements, whether complicated by the drug habit or not. Here the use of the drip sheet, of the cold pack, of cold sponging, of the greatly diluted medicinal agent, entailing free use of water, have been fully demonstrated to be of great value. The older surgeons, before the days of anesthesia, relieved the patient's system from strain and prepared it to stand the shock of operations by these conjoined procedures. Bleeding was usually added for this purpose. Nerve strain and worry mean increased toxic products to be eliminated, and mean at the same time deficient powers of elimination. Both these conditions indicate, therefore, free uses of water, and also, that watery solutions of medicinal agents are to be employed here.

The use of compound prescription, too frequently confounded with its exact object, the shotgun has lessened since the absurdities of this last were pointed out, and since homeopathy has made the single remedy a popular shibboleth. To some extent this principle is observed in anesthesia and also in certain uses of atropin and morphin. As I pointed out some years ago, this principle could be further extended. Many prescriptions of the older clinicians contained remedies so carefully combined as to emphasize certain common properties and destroy properties antagonistic to them. These were unjustly confused with the shotgun, which was simply a blind firing in the dark, in the hope of, by a scattering fire, hitting something. In fecal anemia, for example, combinations of iron and the salines have been found to act well in conjunction with the vegetable bitters, despite the fact that these are ordinarily given to counteract each other. Sir Andrew Clarke had a favorite mixture for this purpose of the following composition: Iron sulphate, gr. xxiv; magnesia sulphate, dr. vii; aromatic sulphuric acid, dr. vi; tincture of ginger, dr. ii, and infusion of quassia, dr. xvi.

While this has been criticised as a shotgun procedure, it was, for reasons already cited, in connection with hydrotherapy, fully adapted to secure free elimination and the extended action of medicinal agents. It also met the objections to the inorganic iron compounds; another factor in its favor was the failure to arouse mental antagonism to the remedy. This antagonism is more frequently awakened by the palatability of a remedy than by its reverse, and, as states of worry increase auto-toxemia, a remedy which arouses this mental antagonism creates worry and increases auto-toxemia.

The combination just cited from Sir Andrew Clarke is one of a type in which remedies are so combined as to produce an alterative action, which increases metabolism, thereby enhancing the assimilation and benefit of a restorative agent. The physiologic conditions implied even in health by assimilation include the necessary element of elimination of toxic products.

The failure to recognize this has been the reason why iron has so often failed completely in anemia. The success of iron, quinin and strychnin when combined have been due to the recognition of this principle. The same is true of the success of the combination of certain heart tonics and alteratives, which have produced an effect where the simple heart tonics by themselves have failed. The fact has been fully demonstrated that disorders of

the heart do not depend so much on organic lesions as upon the lack of compensation. Even angina pectoris produces sclerosis of the coronary arteries so often associated with it and is not, as a rule, produced by this. The products of auto-toxemia, like toxins of the germ diseases, produce scleroses. This auto-toxemia may be of local origin, due entirely to the failure to eliminate the toxic results of nerve stress.

Arrhythmia, bradycardia and tachycardia are cardiac manifestations dependent, as Dr. G. Jacoby pointed out years ago, on disturbance of cardiac innervation with interdependent auto-toxemia. Arrhythmia is often a pure neurosis, resulting from toxemia. It is very frequently found in auto-toxemias, where there is a condition of sexual erethism which itself depends on auto-toxemia. The same is true of bradycardia and tachycardia. So long as these so continue that repair outbalances waste, the condition is not dependent on more than biochemic conditions, but when waste exceeds repair organic disease often results.

Because of this mixture of auto-toxemia and disturbed cardio-nervous action, two requirements must be met: 1, the elimination of toxic products by alterative, and 2, the control and stimulation of the local cardiac ganglia, as well as of the cardio-respiratory centers in the medulla. This is but one of a hundred combinations which might be met by careful union of medicinal agents indicated by the patho-physiologic state.

A neglected but valuable alterative nervin is copper. The therapeutists of the close of the eighteenth century believed that copper was of peculiar value in nervous diseases, where an alterative was needed as in chlorosis and anemia, and where neither iron nor arsenic was beneficial. The action of copper on the eye structures indicates that this alleged alterative action had a foundation in fact. It is a normal constituent of the blood and its toxicity has been enormously overestimated. All the therapeutists of the English-speaking countries agree as to its value as an alterative nervin. It has been found of value in all adynamic states by the French therapeutists. Among the combinations peculiarly useful are copper arsenite and copper phosphate.

Massage has undergone the usual variations of trite and useful procedures. The tendency to fashion and fads in therapy, arising from the advertising desire of fashionable physicians, has led more than once during the last two centuries to the disuse and abuse of massage, and has opened a way for the old bone-setters, who are now called osteopaths. Two decades ago they were denominated in Illinois snapping doctors. Massage has also lost caste through the erotic results of misapplication. During the last two decades of the nineteenth century massage shops, as they were called, abounded in all great cities; they received extensive advertisement in quasi reputable newspapers and created a serious prejudice against massage, of which prejudice the osteopaths have largely availed themselves. The old action of massage, as a stimulant to exercise and tissue change, however, has received constant proof sufficient to remove all prejudices against massage in the mind of the scientific therapeutist. In most of the morbid states where exercise is needed, the initial volition of the resolve to take exercise is so fatiguing that all the good effects of the subsequent exercise are nullified. Here massage peculiarly fits the case, and starts the patient on the road to recovery through the physiologic rest it gives by local physiologic exercise and fatigue, without undue strain on a weak will-balance. The Swedish movement cure is, however, contra-indicated in these cases by its mental effect on the patient, as well as its tendency to produce exhaustion. Both Swedish movement and massage in the hands of a masseur who believes in their occult origin are very dangerous, since mental suggestion of a hypnotic type is apt to affect the patient unfavorably. The most material explanation of their physiologic action should be given their patient, before they are employed, in order to avoid this untoward effect. The addition of massage and Swedish movement to the other measures employed in tabes dorsalis has peculiarly beneficial results, both from a physical and mental standpoint, since the patient learns thereby the amount of strength and motor power that he retains despite its seeming loss. Massage in sexual neurasthenic cases, while beneficial, should be carefully watched, since in this class of subjects, whether male or female, pervert tendencies are easily initiated. In all forms of chlorosis and anemia, a sluggish metabolism may be stimulated by massage as well as establishing the initial improvement in auto-intoxication. It should be remembered that in these last states, from neurotrophic causes the skin readily bruises, but such bruises from massage are of short duration, and rapidly disappear under the improvement effected by the procedure.

TUBERCULOSIS IN STATE INSTITUTIONS.*

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It will be impossible for me to give statistics bearing upon this disease, or to discuss the different methods in vogue in the various states in dealing with it. Such a course is not necessary however. It should be our purpose at the present time to discuss what seem to us the most approved methods, leaving the question as to what is actually done for consideration later. The institutions under the control of the state which demand our attention are schools, hospitals, reformatories and prisons, although we might well go further and discuss conditions in factories, workshops, stores, tenement-houses, etc.

EDUCATIONAL INSTITUTIONS.

Of schools there are the following: Those for children, either public or private or parochial; and the academies and colleges. Every one will concede, I presume, that tuberculous children should be excluded from the public or parochial schools for at least two reasons: 1, in order to prevent the infection of other children, for in these places the dangers of spreading infection by means of non-disinfected sputum through the use of common drinking cups, text-books, etc., is great; 2, for the good of the tuberculous child itself, for it is not good that these should be housed and cared for in the same manner as are the healthy children.

Tuberculous children should have fewer hours of study. They should have well-regulated physical exercise; especial precautions should be taken to protect them from inclement weather, wet clothing or other conditions tending to irritate the respiratory tract. Undoubtedly some one will say that these children should not be in school at all. It is hardly advisable to take such an extreme position, for many tuberculous children will, if properly cared for, overcome the disease

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee.

and become useful, educated citizens. On the other hand, if excluded from school entirely, they might grow into adult life, lacking many of the qualities of good citizens. This should not be sought after. Tuberculous school children should have among their teachers, one giving entire attention to their physical training. Weeding out from our public schools the children that are tuberculous is one of the most important functions of medical inspectors. It may not be necessary to exclude all tuberculous children from private schools, academies, colleges and universities, but all of these institutions should have thorough medical inspection, and, in connection with such, there should be definite methods of living laid down for those that are affected. The student suffering from this disease should never be allowed to room with or sleep with the non-tuberculous. It is not long since my attention was drawn to a sad case. Two university students roomed and slept together. At the outset one was tuberculous; the other was not. Neither of these young men were familiar with the nature of the tubercular infection. Probably at the outset the tuberculous individual did not even know that he had this disease. Later, the affected student died of the disease; not, however, until his roommate had also become infected, following him to the grave within a year. Such an unfortunate occurrence should not have been possible in an institution for advanced study. The physical condition of this infected student should have been known. He should have been required to live in such a way as not to have endangered others. His advanced education, if permitted at all, should have been directed by a competent physician, and he should not have had a roommate.

So far we have been dealing with schools that are in a way free from state control. There are others for which the state is directly responsible. The state schools for the blind, the deaf and dumb, the epileptics, the dependent and neglected children, reformatories, etc., can and should be thoroughly inspected, and a careful watchfulness should be kept over any of these unfortunates who may show any symptoms of tuberculosis. While it may not be necessary in all cases to isolate such children, they should most certainly have separate sleeping rooms, together with a careful regulation of out-of-door and school life. It is quite possible that many of these children are more prone to tubercular infection than are those under our general public school system.

In the schools for the feeble minded we find quite a different class of people to deal with; a people who are irresponsible and incapable; a people whom it is difficult to regulate; a people whose habits are often filthy. Strange as it may seem, one of these filthy habits is to a certain extent protective. I refer to the habit of swallowing sputum. If it were not for this habit it would be almost if not quite an impossibility to prevent the general infection of the wards and rooms in these schools. With this habit we should naturally expect to find a large percentage of cases with intestinal tuberculosis and such is the fact. The record of one institution[1] with which I am familiar, is as follows:

Year.	Average Attendance.	Deaths, Total.	Deaths from Tuberculosis.
1881	22	2	1
1882	30	2	..
1883	37	1	1
1884	45	4	..
1885	78	7	3
1886	78	9	2
1887	104	6	2
1888	157	9	3
1889	198	11	3
1890	268	12	2
1891	301	18	4
1892	305	15	5
1893	352	13	6
1894	456	24	6
1895	440	22	4
1896	435	18	4
1897	511	26	3
1898	590	39	10
1899	630	24	6
1900	668	30	11
1901 (Jan. 1 to May 5)	758	9	3
Total		301	79

The average attendance is for the fiscal year, July 31-July 31. The deaths are for the calendar year.

1. Furnished me by Dr. Huxley, of the School for Feeble-Minded, at Faribault, Minn.

W. Huxley further states, that after a careful study of the records in regard to tuberculosis at the time of admission, I believe that the year beginning April, 1900, may be taken as a fair example. There were 107 admissions. Tubercular: positive, 8; probable, 5; questionable,, 6. The positive covers those cases sufficiently advanced to warrant the statement.

Under probable are included those cases in which the findings lead to a strong suspicion of tuberculosis, but which are not sufficient to justify a positive statement of the condition.

Questionable cases comprise those where the condition of the patient, shape of the chest, expansion, etc., would lead one to be on his guard as to a favorable prognosis, but where unfavorable conditions render it impossible to demonstrate the disease clinically.

Below is a list of autopsies, performed this fiscal year:

Case.	Age, yrs.	Sex.	Tuberculosis of lung.	Tuberculosis of intestine.	Diagnosis—clinical.
A	4	F	Yes.	Yes.	Chronic enteritis.
B	28	M	"	"	Tuberculosis—general.
C	7	M	No.	No.	Nephritis.
D	9	F	Yes.	"	Tuberculosis—lung.
E	8	M	No.	"	Gastro-enteritis.
F	34	M	Yes.	Yes.	Tuberculosis—general.
G	50	M	Slight.	No.	Epilepsy.
H	10	M	No.	"	Chronic gastritis.
I*	26	M	Yes.	Yes.	Epilepsy and tuberculosis.
K†	50	M	"	"	Tuberculosis—general.
10			7	5	Three not tubercular.

* Tuberculosis demonstrated clinically about one month before death.

† In this case the patient expectorated freely and was provided with a sputum cup: tubercle bacilli were found in sputum; impossible to get sputum in other cases.

All of above were low-grade cases, except last.

Cases of marked tuberculosis are taken to the hospital, placed in a separate ward, cared for under antiseptic precautions. All outside cases are given the benefit of sunshine and open air as much as possible and those in charge are instructed as to the nature of the disease.

Dr. Rogers states that a few years ago, when the institution was not quite so badly crowded, the attending physician selected the tuberculous cases, or those in whom he suspected tuberculosis, and arranged to have them, under charge of a special attendant, out of doors in all good weather, and pretty well separated from other children when in the house. While this plan was carried out, there were fewer new cases developing in the institution than before.

As this institution is under most careful and efficient management, the record is probably up to, if not above, the average for others of a similar nature. It is noticeable that with this high mortality from tuberculosis among defectives, there is not a single instance of probable infection of attendants.

INSTITUTIONS FOR THE INSANE.

Still other conditions relative to the care of the tuberculous in state institutions are presented in the hospitals for the insane; conditions that are somewhat peculiar. It appears that it is not at all uncommon for tuberculosis to be held in abeyance apparently in the insane, and yet these patients in whom the disease exists in non-progressive form are capable of infecting others. We, therefore, find in these hospitals two sets

of tuberculous patients: viz., 1, those who were tuberculous before their admission but in whom the disease is apparently non-progressive; 2, those who have become infected since entrance into the institution and in whom the disease is progressive, later ending fatally. The records of three institutions with which I am somewhat familiar is as follows:

	1		2		3	
Year.	Population.	Deaths from Tuberculosis.	Population.	Deaths from Tuberculosis.	Population.	Deaths from Tuberculosis.
1890	....	8	967	8	82	..
1891	949	10	1054	15	122	..
1892	935	4	1058	11	245	..
1893	599	10	1071	19	352	1
1894	938	8	1115	27	532	5
1895	936	11	1120	18	725	5
1896	997	9	1138	21	783	8
1897	978	30	1126	19	984	16
1898	1007	20	1196	9	1061	13
1899	984	9	1186	22	1215	15
1900	936	15	1122	10	1306	31
Total	9669	134	12,153	179	7407	94

There is a tendency among the insane to swallow sputum, but this tendency is not so general as among the feeble-minded. On the other hand, it is no uncommon thing to find an insane person exceedingly filthy with reference to expectoration. It is no uncommon thing for attendants at asylums to become infected at such institutions and die. It would seem that of all state institutions in which an attempt should be made to control tuberculosis, the hospitals for the insane should take first place, for many of the patients recover in part or entirely from their insanity and are returned to their homes. If such restored patients have been infected with tuberculosis while in the institution, they will in all probability not only die of this disease, but will spread infection to other members of their families.

In a paper which I read before the Conference of State and Provincial Boards of Health at Nashville, in 1897, I presented the following statements and these hold equally good at the present time:

In a paper by Dr. George H. Rohé, upon sanitation in hospitals for the insane, he says: "The greatest scourge of these institutions is tuberculosis, and I fear the apathy with which this disease is regarded by physicians in charge of the insane is largely due to the prevalent belief that there is an etiologic relation between phthisis and insanity. I am convinced, however, that unprejudiced observation will show that the prevalence of tuberculosis in hospitals for the insane is due to the great facilities for infection and the lack of attention to the means of restricting the same. The American Public Health Association has, by the report of its committee on restriction of tuberculosis, pointed out the means of limiting the spread of this disease. By the adoption of these means, the percentage of tuberculous deaths to the general death-rate in one hospital, has been reduced in the course of three years from an average of 25 per cent. to a fraction under nine per cent.

I was interested in this hospital report from Dr. Rohé, at the Maryland Hospital, Catonsville, and wrote to Dr. Wade, his successor, to learn the present condition of the tubercular patients. He informed me that the death-rate from tuberculosis for 1896 was but 6.1 per cent. Dr. Wade described the manner of caring for the tuberculous insane in this hospital as follows: "The sputa of the suspected case is examined, and if the bacilli are found the patient is placed in a single room, the walls of which are painted and can be easily disinfected. The furniture consists of an iron bedstead which is readily cleaned. There are no curtains at the windows and no carpet on the floor. The patient is pursuaded, if possible, to expectorate into a vessel, which is disinfected at proper intervals. If the patient expectorates about the room, no harm can be done, however, as everything can be readily washed with a disinfectant. The bedding is properly cared for, and is used for no other bed. After the death of the patient, the room and all of its contents are thoroughly disinfected."

It may be well to place Dr. Wade's opinion, relating to tuberculosis among the insane, against the older views which I have already given. He states, as reasons for a high mortality from this disease in these hospitals: 1, the fact that the physical condition of the insane patient is very much depleted on admission; 2, the necessary confinement in the building; 3, the difficulty of isolation; 4, the lack of proper care and disinfection; 5, the fact that many of the patients do not complain of their ailments and that the tuberculous process is well established before discovered.

Dr. Tomlinson, Superintendent of the State Hospital for the Insane at St. Peter, Minnesota, believes in the transmutation of insanity and phthisis. At the same time he believes that most of the cases of tuberculosis in these hospitals originate by infection while in the hospital, and that patients having a direct heredity of phthisis are not likely to die from this disease. In proof of this he quotes from the hospital's statistics as follows: "During a period of two and one-half years, out of 695 patients admitted, 70 had a history of phthisis in the family; and 5 were suffering from phthisis when admitted. During this same period, 19 patients died of phthisis, and not one of these had a family history showing that disease."

He believes that the *materies morbi* for tubercular infection is always present in the old-style hospital and that the poor hygienic surroundings due to overcrowding have much to do with its development. This is illustrated by the fact that at times a patient who becomes infected with tuberculosis and is rapidly failing may improve and apparently recover when placed under better sanitary conditions. We should, therefore, have no hesitation whatever in saying that the isolation of the tuberculous insane should be insisted upon, even though such a procedure would require the establishment of a hospital especially for this purpose.

PRISONS.

It should be a simple matter to control tuberculosis in prisons, for the individuals are under absolute control. In all modern prisons each prisoner has his own cell. It is a simple matter, therefore, to set aside certain cells in which to confine tuberculous prisoners. These individuals should be given a special diet and should be kept at work in the open air, if possible. They certainly should not be placed at work in shops or factories with other prisoners. Such a system, I am happy to say, is carried out at the Minnesota state prison with most gratifying results, for at present there is not a single prisoner suffering from tuberculosis in confinement at that institution. Dr. B. J. Merrill, physician in charge, established the system of isolation, special diet, etc., in the summer of 1894. At this time

he set aside a group of cells now known as "tuberculous row;" with the appearance of any suggestive symptoms of tuberculosis a prisoner is carefully examined from time to time and as soon as the presence of tuberculosis is recognized he is placed in one of these cells. This does not mean that he is placed in an infected cell; far from it, for these cells and their contents receive special attention. All bedding and clothing is disinfected and laundered separately. The prisoner is required to expectorate into a spit cup containing a disinfectant, and especial care is given to the cleansing of the cell from day to day. Should a tubercular prisoner die, his clothing and bedding are disinfected or destroyed and his cell is thoroughly cleansed before being placed again in service.

These methods adopted at Stillwater may not be unusual in prisons but it is not universal. In strong contrast with the condition at the Stillwater prison is that which exists at the Indiana State Reformatory at Jeffersonville. This institution is poorly located on low ground, and in spite of protests it is overcrowded to such an extent that bunks made of rough boards fill up all the available space on the floors of the cell room and many cells are made to accommodate two instead of one man. Buildings that were planned to accommodate 536 prisoners have now an average population of 900. Of course, it is not possible at this place under existing conditions to isolate tuberculous prisoners.

The records of this institution from Nov. 1, 1896, to Oct. 26, 1900, divided into two periods of two years each, show the following concerning tuberculosis:

First period.—Tuberculous inmates under treatment, 52; deaths from tuberculosis, 15. Total deaths, all causes, 23; percentage of deaths from tuberculosis, 65.

Second period.—Tuberculous inmates under treatment, 396; deaths from tuberculosis, 23; total deaths, all causes, 32; percentage of deaths from tuberculosis, about 72.

These numbers represent only the cases that have been on the sick list. Undoubtedly there were others who, if they had been examined carefully, would have shown symptoms of the disease. It would seem that this institution, with the assistance of that reaper whom we call death, might be able in the course of a few years to eliminate from Indiana its tuberculous reformatory prisoners.

As race has much to do with the susceptibility to tuberculosis and as negroes and people of mixed negro blood are said to be especially liable to contract this disease, and, as there are many more negroes in the Indiana reformatory than in the Minnesota prison, it may be said that a comparison of these two institutions is unfair. As a matter of fact, the difference in the susceptibility to tuberculosis of the people in these two institutions is not so great as might appear to the casual observer. If, however, it is conceded that climate and individuals favor the Minnesota institution, there is then the more reason for the use of strict sanitary measures at the Indiana reformatory.

Etiology of Diabetes.—Erichsen suggests in the *St. Petersb. Woch.*, that diabetes may be due to sclerosis of the vertebral and basilar arteries. Patients with diabetes frequently exhibit indications of arteriosclerosis. The vertebral and basilar arteries pass along the medulla oblongata and send ramifications to the floor of the fourth ventricle. He bases treatment of diabetes on this principle, and administers potassium iodid in combination with sodium salicylate, as in case of arthritis and arteriosclerosis in general. The favorable effect may reach the arteries of the medulla and thus ensure better nutrition of the "sugar center" and improve the symptoms of the diabetes.

PUBLIC SANITARIA.*

C. P. AMBLER, M.D.
ASHEVILLE, N. C.

The large number of alleged "cures" for tuberculosis which are constantly appearing as new remedies in the treatment of this disease, only go to prove that the medicinal treatment of tuberculosis, if depended upon empirically, is failing in the object to be attained. We have elsewhere (Columbus meeting of the American Medical Association) claimed that the hygienic treatment of this disease should occupy first place, in no matter what climate or under what conditions the patient was being treated; that climate should occupy second place, while medication in point of preference should be given third place. The consensus of opinion of all writers who deal largely with this disease now practically agree in this, the same proving that the hygienic care of the patient is of the greatest importance.

The question immediately arises as to how we can place our patients under the best hygienic conditions. I understand that under "hygienic conditions," one of the things of greatest importance is the education of the patient in what to do and what not to do. It becomes the duty of the physician to instruct his patients carefully and to see that these instructions are carried out. This is generally a very difficult matter where the patient is engaged in his daily work and is frequently one of the greatest drawbacks where our patient is in the ordinary boarding-house of a health resort. The sanitarium undoubtedly offers the best possible advantages for the proper instruction of a patient, both as regards exercise, diet and the many little things which go to make up the daily round of life.

Unfortunately, a large percentage of the phthisical of this country are so situated that they can not enter a private institution for such treatment on account of the expense involved; this brings us to the point of our paper, i. e., does the state owe a duty to the phthisical poor?

The communicability of this disease makes sanitation a necessity, always. It is foolish for us to create the impression among the laity that the disease is violently contagious; but nevertheless, each case is a menace to those with whom he comes in contact, and particularly among the poor is the death-rate in this disease high. Each state takes care of its insane and spends large sums yearly upon the maintenance of such hospitals. The inmates of these institutions are hopeless as far as future citizenship is concerned, and, while the state recognizes that it can not hope to bring them to a point of usefulness, it has already become the fashion in the different states to take good care of the insane as well as their blind, their deaf and dumb, their epileptic and their criminals (and who shall say that the latter are not simply persons of diseased minds?). If the state acknowledges the duty of caring for all these, it should certainly recognize the same duty toward this large class of patients who become diseased through no fault of their own, particularly as in the case of the phthisical, where each and every patient is a menace to those with whom he comes in contact, and in many cases becomes a charge upon the community in which he resides. He is a danger to his friends, he is a danger, to a certain extent, to the community at large, and, as the state now sees fit to enforce laws and regulations in most

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee.

other contagious diseases, the time is shortly coming when the same action will be taken in regard to tuberculosis; particularly is this shown to be true when we investigate statistics and find that about one-tenth of all the deaths in this country is due to this disease.

The poor man who develops tuberculosis, as a rule, dies of the same, dies in distress, dies suffering for the need of the simplest comforts and attentions, and dies only after he has infected the whole community in which he lives. If tuberculosis was as rare to-day as leprosy and if the ravages of this disease could be seen upon the skin as in that trouble, we would to-day be isolating our tuberculous patients in pest-houses and enforcing them away from their friends and their families. It is the insidiousness of the disease, together with the fact that it involves organs and tissues which are not discernible to the eye, that makes people at large so indifferent to the malady as they are. Because they can not see the disease, they accept the same as a visitation of Divine Providence and seem to have no fear of it, even when for ages back it has been known that the disease is more or less communicable.

The rich can and do take care of their own; but the poor, the needy poor, and those who are only poor on account of the disease, and those, who prior to their affliction, were engaged in daily labor, in many cases working for the state, what shall we do with these? Are they to receive no consideration at the hands of the community in which they have resided and been good citizens?

I believe that all will recognize before many years that the state has a duty toward these poor, both on account of their unfortunate condition and on account of the contagion which they spread. Many of our states are already taking the matter up, but this movement has been altogether too slow.

In 1889 when I first started into the sanitarium treatment of this disease there were only two institutions of the kind in this country, to-day there are over thirty; of these but two are state institutions and one is National (conducted by the Marine and Army corps); the remainder are private institutions, conducted by private individuals, corporations or charitable institutions. Our politicians will soon be compelled to adopt some measures to stop the spread of this disease and such institutions for the care of the phthisical poor will undoubtedly be one of the first measures. These institutions will probably be conducted on the cottage plan and not with large wards or open dormitories. They will be situated at an altitude of between two and three thousand feet; away from towns; with level grounds; groves of trees; good water and drainage, and should be easy of access. The grounds should be large and the inmates allowed and required to assist in the care and cultivation of the same, under the constant supervision of the physician in charge.

Under some such plan as this many of the phthisical poor could be cured and others greatly benefited. The one great curse to the poor man suffering from this disease is the fact that he continues in his labors until his condition is such that no improvement is possible. If the state would give him the care which he deserves he would then be more free and better able to take this care at an earlier period and with better prospects of recovery.

I firmly believe that each state should levy sufficient taxes for their consumptive poor and that each county should pay these taxes pro rata, according to the number of phthisical patients in the county requiring assistance. This would force the keep of these people upon the county in which they had developed their trouble and would necessarily sooner or later result in better hygienic laws in that county. It would also remove to a distance many virulent sources of infection and give the county better chances of recovering from the disease.

Some will say that the segregation of tuberculous patients will only result in more virulent local infections of certain districts; this is nonsense, as it can be clearly proved to-day that those institutions which have been conducted in this country have, in the rarest exceptions, had the disease develop on their grounds.

If the state is to take hold of the subject, it will only do so upon the solicitation of the profession, and if the profession who now recognize the necessity of some such legislation do not openly advocate the same and educate the people up to the point where they recognize the necessity of such legislation, then we are failing in our duty to the phthisical poor and to the community at large.

We, as physicians, should also attempt to educate those who so generously endow hospitals, to the necessity of establishing institutions for the treatment of this disease for the needy and deserving poor. When we look over the large number of hospitals in some of the large cities and see how many of these are sufficiently endowed to guarantee their permanent finances, and when we look further and see how few of these have either special wards or special means for caring for this large class of the unfortunate, we can only censure ourselves that such is the case. The public-spirited citizens who endow these hospitals do not realize the amount of suffering and distress, want and destitution that exists among our poor consumptives, and as before stated, we, as physicians, should undertake to see that these people have a better understanding of these necessities. If we do there can be no doubt whatever but almost every city in the country would have an institution either in the suburbs or in the country for the care of the tuberculous poor of the city in question.

Let us appeal not only to the state, but let us appeal to those who are rich also and who could certainly place their money to no better advantage than thus relieving the suffering and distress of their fellow man. Let us advocate cottages for the curable cases and let us advocate separate cottages for the incurables, and surely if those who have money to apply to a charity cause could once be made acquainted with the great amount of good which could be done, especially among these latter cases, our appeals would not be in vain.

In order to accomplish anything, however, we will have to work; work individually and work together and not each man depend upon the other, but organizing a crusade in this direction, if each physician would make himself a committee of one to see that the same is advocated in the proper place and time, a year or two would undoubtedly produce great and good results.

Let us remember that it is not always necessary to send the consumptive away from home. Good work can be done any place in the country if the proper hygienic measures are carried out. And especially let us advocate the placing of the deserving and needy incurables in institutions removed from the centers of population.

In order to be able to place before you what has already been accomplished by the different states in

this country, I have addressed circular letters to the secretaries of the different State Boards of Health asking them certain questions, which we give below, together with the replies received and the names of the secretaries of the State Boards of Health answering.

Summarizing the reports received from the 43 different states answering we find under Question 1.—That in 12 states pulmonary tuberculosis is classed by the state laws as a contagious disease, and in 28 the disease is not mentioned in any way under or in the state laws. In 13 states the state laws do not mention the disease, but the State Boards of Health recognize that the same is a communicable disease and are now endeavoring to get state laws passed.

Question 2.—By the reports received we find that in 21 states there has been direct legislation to prevent the spread of pulmonary tuberculosis and in 22 states there has been no direct legislation to prevent the spread of this disease. Under this head we find the interesting fact that in 11 of those 22 states which do not recognize this disease as a disease in the human being, stringent measures have been passed and are now in active force to prevent the spread of tuberculosis among cattle. The state apparently recognizes a greater duty to the cattle of the state than to the citizens, although the laws passed are supposed to be passed for the benefit of the population. In 10 states the only measures that have thus far been taken by the state have been to distribute literature in an attempt to educate the people as to the dangers and communicability of this disease. The report from Rhode Island shows that $15,000 is annually given the Board of Health by the state to pay for such cattle as the Board finds tubercular and is destroyed. Under this question our report shows but three states in which local ordinances concerning expectorating in public places have been passed and are enforced.

Question 3.—In but 5 states of the 43 reporting is there any provision made for the care of the poor tubercular patient by the state, namely, New York, Massachusetts, Maryland, Pennsylvania, Ohio (municipal); while Connecticut, Michigan, Maine, Minnesota and Pennsylvania now have pending bills before their legislatures for the establishment of state institutions.

Question 4.—Of the 43 states reporting, 8 states report private institutions for the care of tubercular patients, while the whole number of such institutions reported amounts to 26, the majority of which are situated in Boston and Philadelphia. (Of the whole number reported 8 are simply wards in general hospitals, which wards are set aside for tuberculous patients.) In 4 states the State Board of Health and State Medical Society are now jointly working together for the establishment of such institutions for the care of the incipient poor.

Question 5.—Of the whole number of 43 states reporting, in only 18 instances was the state able to furnish statistics as regards the prevalence of tuberculosis in the state. In 17 instances the State Board of Health records were sent, but from many of these it was impossible to obtain figures or data which would enable one to arrive at anything like definite conclusions. By averaging the total number of deaths from all causes from all the states reporting, it appears that about one death in every ten is from some form of tuberculosis, whereas, the same inquiry made six years ago showed that one death in each six of the total deaths was due to this same disease.

In 27 of the 43 states reporting, it was admitted by the reporter that the state records were in bad shape, thus further showing that the state pays little attention to this, one of the communicable and most fatal diseases. The most progressive states, judging from the reports sent and from the work already done in the states, are (in proportion to the amount of work done) Maine, Massachusetts, Pennsylvania, New York, Michigan, Rhode Island and Vermont.

Judging from the summary of the whole report received from these states a systematic effort is now being made to educate the people of the various states as to the danger and contagiousness of pulmonary tuberculosis, and in most of the states the state now recognizes the disease as a disease in cattle, but absolutely ignores the same in the human being. Many of these states seek to prohibit the spread of the disease in the human being (without so mentioning the fact) by slaughtering the cattle that are found to be tubercular. It further appears that many municipalities compel the inspection of cattle slaughtered to prevent the consumption of meat from tuberculous cattle, but these same municipal authorities fail to recognize or admit that such a disease already exists among the people of their municipality.

It would appear as though in most of the states we are attempting to clean and purify our homes by sweeping the front steps; in other words, we seem content to live with, eat with, sleep with, and come in constant contact with the filth of the disease of tuberculous patients when occurring in our homes and cities, and that our sense of duty only urges us to make strenuous efforts toward purifying the cattle herds of the country.

Of the whole number of states reporting, in but one instance is there no provision made for the care of the insane and in but two instances no provision for the blind, and I believe that almost every county of every state reporting has some provision for the care of the destitute poor. In most of these states we find pesthouses where are confined those persons having acutely contagious diseases, and throughout the breadth and length of the land we find that the endowment of hospitals for the epileptic, the blind, the insane, the crippled, the deaf and dumb, the aged, the poor and, in fact, the diseased in either mind or body, from no matter whatver cause (other than tuberculosis) are constantly being endowed by private individuals, established by the states, established by the counties and municipalities, but that this great plague which annually kills one out of every ten persons dying in our country, has received practically but little attention or recognition on the part of the state or the philanthropist.

REPORT.

Question No. 1—"Is pulmonary tuberculosis classed as a contagious disease under your state laws?"

Question No. 2—"Have any laws or steps been taken by your state to prevent the spread of pulmonary tuberculosis?"

Question No. 3—"Are there any institutions conducted by your state for the cure or treatment of pulmonary tuberculosis?"

Question No. 4—"Do you know of any private institutions in your state conducted for the cure or treatment of pulmonary tuberculosis? If so, where located?"

Question No. 5—"Can you furnish me anything in the way of statistics, showing the prevalence of pulmonary tuberculosis in your state?"

Massachusetts—Samuel W. Abbott, Sec. State B. O. H. Question 1—No. Question left to discretion of local board of health. Question 2—No direct legislation. State B. O. H. has applied for such and same now pending. Question 3—Rutland Hospital for Consumptives, 200 beds. Question 4—Cullis Home, Boston, 44 beds; Free Home for Consumptives, Boston; Chamming Home for Consumptive Women, 17 beds; Home Good Samaritan, 28 beds; Carney Hospital Wards; Sharon Sanitarium, 20 beds. Question 5—Complete state records.

Pennsylvania—Lawrence Flick, M.D., Sec. State B. O. H. Question 1—Yes. By power conferred upon state B. O. H., which body so classifies the disease. Question 2—No. Indirectly the State Veterinary Department exercises some control. Question 3—No. State appropriates $5000 annually to Rush Hospital for Consumptives, and will likely appropriate money to State Hospital this year. Question 4—Hosp. Dis. of Lungs, Women, Phila., 40 beds; Hosp. Dis. of Lungs, Men, Phila., 10 beds; Rush Hospital of Phila., 30 beds; Nott Home of Jewish Hosp., 20 beds; Free Hosp. Poor Consumptives, 35 beds; Consumptive Wards in the Episcopal, Samaritan, German, University and other hospitals. Question 5—There are probably 100,000 cases of pulmonary tuberculosis in Pennsylvania at present; 6000 consumptives die in Pennsylvania every year. Complete state records kept.

North Carolina—R. H. Lewis, M.D., Sec. State B. O. H. Question 1—No, not specifically. Question 2—Distribution of literature; local expectoration ordinance; local notification ordinances. Question 3—No. Question 4—Winyah Sanitarium; Pigbone Sanitarium for Colored Consumptives; St. Joseph's Retreat. Question 5—Complete B. O. H. reports.

Colorado—G. E. Tyler, Sec. State B. O. H. Question 1—No. Question 2—Educational only; 17,000 circulars mailed during past year. Question 3—No. Question 4—Oakes Home, Denver. Question 5—Complete B. O. H. reports.

Maryland—John S. Fulton, Sec. State B. O. H. Question 1—No, but mentioned in regulations for transporting dead bodies. Question 2—No, except as pertains to cattle and dairies. Question 3—Hospital for Consumptives at Towson. Question 4—No. Question 5—No.

Connecticut—C. A. Lindsey, Sec. State B. O. H. Question 1—No, except as applies to cattle. Question 2—No, only as regards cattle. Question 3—Bill now pending, asking for $150,000. Question 4—No. Question 5—Complete B. O. H. reports.

Mississippi—J. F. Hunter, M.D., Sec. State B. O. H. Question 1—No, but B. O. H. so considers it. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Kentucky—J. N. McCormick, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Only advisory, and distribution of literature. Question 3—No. Question 4—No. Question 5—No.

Virginia—Paulus A. Irving, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Distribution of literature only. Question 3—No. Question 4—No. Question 5—No. No reliable data.

Louisiana—G. T. Patton, M. D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—Tolson San., at Covington. State B. O. H. now trying to establish a state institution. Question 5—No.

Arkansas—R. B. Christian, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Michigan—H. B. Baker, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Distribution of literature and notification by physician. Question 3—No, but two bills now pending. Outlook not good. Question 4—No. Question 5—Complete State B. O. H. reports.

Iowa—J. F. Kennedy, Sec. State B. O. H. Question 1—Yes. Question 2—Distribution of literature only. Question 3—No. Question 4—Dr. J. W. Kime's San. Question 5—No. Nothing reliable.

Wisconsin—V. O. B. Wingate, M.D., Sec. State B. O. H. Question 1—No. Distribution of literature; education of citizens. Question 3—No. Question 4—No. Bill now pending and prospects good. Question 5—Complete State B. O. H. records.

Kansas—W. B. Swan, Sec. State B. O. H. Question 1—No, but state gives local B. O. H. authority to so classify. Question 2—Distribution of literature only. Question 3—No. Question 4—No. Question 5—1898 total deaths, 5288, of which 480 were from tuberculosis. Complete State B. O. H. records.

Ohio—C. C. Probst, Sec. State B. O. H. Question 1—No. Question 2—Only in educational way. Question 3—No. But one municipal hospital at Cincinnati. Question 4—No. Question 5—Nothing very reliable.

Maine—A. G. Young, Sec. State B. O. H. Question 1—No, but power given local B. O. H. to so classify. Notification compelled. Question 2—Distribution of literature. Question 3—No, "not yet." Question 4—No. Question 5—Complete State B. O. H. records. First state to distribute literature.

Texas—W. F. Blunt, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—Dr. L. W. Cock's San., at Boerne. Question 5—No.

North Dakota—H. H. Healey, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No. Records, bad shape; disease not prevalent.

Nebraska—B. F. Grummer, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

South Carolina—James Evans, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Only as pertaining to transportation dead bodies. Question 3—No. Question 4—No. Question 5—No. Records not complete.

Rhode Island—Gardiner J. Swartz, M.D., Sec. State B. O. H. Question 1—No, except in cattle. Question 2—$15,000 given B. O. H. annually to pay for tubercular cattle. No other. Question 3—No. Last session took the matter up for investigation. Question 5—Yes. Complete State B. O. H. records: 1 death to every 450 population.

Wyoming—Geo. P. Johnston, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No. B. O. H. just organized; disease practically unknown.

Washington—D. P. Newman, Sec. State B. O. H. Question 1—Yes. Question 2—Yes. Question 3—No. Question 4—No. Question 5—No.

District of Columbia—W. C. Woodward, M.D., Sec. District B. O. H. Question 1—No. Question 2—No, except expectoration laws and control of milk. Question 3—No. Question 4—No. Question 5—B. O. H. reports.

Minnesota—H. M. Bracken, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No, but last legislature took matter up. Question 4—No. Question 5—Statistics incomplete.

Oregon—B. E. Miller, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—There are none.

Vermont—H. D. Nolten, Sec. State B. O. H. Question 1—No, but State B. O. H. so considers it. Question 2—No, except as applies to cattle. Question 3—No. Question 4—No. Question 5—9.28 per cent. of all deaths are from tuberculosis.

New Jersey—H. Mitchell, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Expectoration and notification ordinances by local municipalities. Question 3—No. Question 4—No. Question 5—Complete State B. O. H. reports.

Utah—J. B. Beatty, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

South Dakota—Wm. Edwards, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No. Disease rarely seen.

Montana—A. F. Longeway, M.D., Sec. State B. O. H. Question 1—No, but B. O. H. so considers the disease. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Illinois—Jas. A. Eagan, Sec. State B. O. H. Question 1—Communicable. Question 2—No, only as regards cattle. Question 3—Yes. Bill also failed last session; asked for $200,000 for state hospital for tuberculosis. Question 4—No. Question 5—Exceedingly difficult to do so.

Florida—Jas. Y. Porter, Sec. State B. O. H. Question 1—Yes. Question 2—No. Question 3—No. Question 4—Church and Hospital Orlando. Question 5—No.

Indiana—J. N. Hurty, Sec. State B. O. H. Question 1—Yes. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

New Hampshire—J. A. Watson, Sec. State B. O. H. Question 1—No. Question 2—No, except cattle. Question 3—No. Question 4—No. Question 5—Incomplete.

West Virginia—A. R. Barbee, Sec. State B. O. H. Question 1—No, but B. O. H. so considers it. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Arizona—W. L. Woodruff, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

New York—B. L. Schultzer, Sec. State B. O. H. Question 1—Yes. Question 2—Yes. Question 3—Yes. Question 4—Saranac, N. Y.; Liberty, N. Y. N. Y. City hospitals. Question 5—Nearly 13,000 deaths yearly.

Delaware—Alex. Lawber, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—Higher than for any other disease.

Idaho—R. L. Naroe, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Nevada—S. A. Gibson, Sec. State B. O. H. Question 1—No, except cattle. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

California—W. P. Mathews, Sec. State B. O. H. Question 1—No, but B. O. H. so regards it. Question 2—No, except municipalities. Question 3—No. Question 4—No. Question 5—Incomplete.

Alabama—Geo. P. Waller, Sec. State B. O. H. No reply to either of two letters.

Missouri—L. C. McElivee, Sec. State B. O. H. No reply to either of two letters.

Georgia—J. B. S. Holmes, Sec. State B. O. H. No reply to either of two letters.

Tennessee—J. A. Albright, Sec. State B O. H. No reply to either of two letters.

CONSIDERATION OF SOME IMPORTANT SUBJECTS CONNECTED WITH THE TREATMENT OF PNEUMONIA.*

EDWARD F. WELLS, M.D.

CHICAGO.

In assuming the duties pertaining to the presidency of this Society I should indeed be lacking in that kindly spirit of gratitude which is usually inherent within us were I to fail in embracing this opportunity to express my sincere thanks for the honor which you have conferred upon me. This office is assumed with diffidence and a keen sense of the important obligations which it entails, and I can only assure you that there shall be brought to bear upon it, unreservedly, all the energy and talent which is mine to give. This Society has been fortunate in having had at its head during the past three years such an indefatigable worker as my predecessor, and my efforts shall be directed toward maintaining, as far as lies within my power, the Society upon the high scientific and practical plane to which it has been raised. In this matter I shall hope to merit, and to receive, the hearty, coöperative, active support of every member of our Society.

Although the treatment of pneumonia has been for generations the chosen battlefield of therapeutics, and the subject is being constantly offered for discussion in our medical societies, nevertheless I am of the opinion that the last word upon it has not yet been spoken, and that interest in it is far from being exhausted. On the

* Being the Presidential Address of the Chicago Society of Internal Medicine.

contrary I believe that the time is now opportune for a careful and analytical consideration of certain important problems in this field which are as yet unsolved. It is but fair to state that time will permit the presentation, in a cursory manner, of only a few of these.

The fact that pneumonia is increasing in prevalence is *prima facie* evidence that prophylactic measures have either not been adopted or have proven unavailing. As a matter of fact they have not been employed by the few, except in rare instances, and have not been even considered by the many. Is this as it should be? Have we at hand sufficient evidence to lead to the conclusion that any individual or communal prophylactic measures offer reasonable prospects of usefulness, and, if so, in what do they consist? Let us rapidly review our fundamental knowledge bearing upon this point.

ETIOLOGY.

Pneumonia is caused by a specific pathogenic microorganism, the pneumococcus. The pneumococcus will not grow in acid media, and in its growth it produces an acid and an albumose, which in turn probably cause the death of the organism. Its different strains vary in virulency, and somewhat in biological characters. Pneumococci from individual strains vary in virulency as they are grown in differing media, as, *e. g.*, the diplococcus found in the nasal passages of a pneumonic patient is less virile than that found in the inflamed lung, but the germ of lesser virulency may be made intensely active by being passed through a susceptible animal. Its capsule is lost by cultivation outside animal bodies. It is not destroyed by most of the ordinary antiseptics and its capsule is only acted upon by alkalies and ethers. Contrary to popular belief it may lead a saprophytic existence. The pneumococcus is present in some part of the upper respiratory passages in a very considerable proportion of healthy persons, and it is probable that pneumonia is ordinarily due to the aspiration and slipping down into the alveoli of some of these ready at hand cocci.

PROPHYLAXIS.

In view of the foregoing and other relevant facts we may, tentatively, formulate the following prophylactic rules: All discharges from the respiratory passages should be treated in such manner that they can not gain access, in the form of spray or dust, to the respirable air. Pneumonic sputum should not be allowed to become dry, and should be burned. The tenacious, clinging expectoration should be carefully removed from the lips, teeth, etc. The mouth, throat and nostrils should be cleansed at proper intervals with an acid solution, followed, after a few minutes, with an agreeable mildly alkaline antiseptic solution. With reasonable care along these lines it is probable that the infected person may jeopardize only very slightly the safety of those who come in contact with him.

VIRULENCE OF THE TOXINS.

To the careful and experienced clinical observer it is quite clear that the course and termination of pneumonia varies within wide limits, due to a variety of causes, among which may be mentioned, as being of greatest importance, the special virulency or benignity of the strain of the pneumococcus, and that intangible and peculiar, but positive and widespread impressionability of the populace which our grandfathers in medicine very aptly called the "prevailing medical constitution" or "epidemic influence." This remarkable susceptibility upon the part of the inhabitants of a more or less extensive district to receive and afford a congenial soil for the pneumococcus, in which it may attain extraordinary virility, is a condition which must be constantly reckoned with in the prognosis and treatment of pneumonia.

In pneumonia the patient's life is threatened from many and diverse directions, all of which can neither be appreciated nor mentioned. A few of these, however, deserve our present consideration: The chief element of danger is from the introduction of the pneumococcal toxins into the nutritional fluids of the body. This is one of the most powerful of the bacterial toxins, as may be inferred from the profound chill and raging fever which follows the initial introduction into the system of an infinitesimal quantity of the poison, and this diluted almost beyond conception. That the system becomes less impressionable and more resistant to the toxin as the malady advances is evident from the fact that progressively increasing quantities of toxins absorbed do not produce correspondingly more pronounced effects. This may be due to a variety of causes, as, *e. g.*, simple accommodation to an irritant; physical protection by the retention, to a considerable extent, of the toxins within the blood-vessels; by dilution of their poisonous solutions; their absorption and modification by leucocytes or other cellular elements; the neutralizing and protecting influence of antitoxins or defensive secretions generated by the leucocytes or other cellular elements, or to antitoxins evolved by the pneumococcus itself, etc.

Can we assist Nature along these lines? I answer, unhesitatingly, that we may do so. But in making any attempts in this direction we should act with conservative discretion and only after careful consideration of as many of the facts in the case as may be made manifest. These problems are inherently complex, and are rendered especially difficult by the instability of the factors which enter into them. We also lack the results of the right kind of experimental and clinical investigation in these fields. It behooves us, therefore, to be very careful that, by misdirected effort, we do not increase the dangers of a serious malady.

CAPILLARY PARESIS.

One of the early and persistent symptoms of pneumonia is capillary paresis. The blood, with each ventricular systole, is forcibly impelled through the capillaries into the veins. It results from this that the arterial system is underfilled, while the venous system is overfilled with blood; and the fluids without the blood-vessels, not receiving fresh supplies by osmosis through the capillary walls, are more or less stagnant. This is probably an efficient device of Nature for protecting the dynamic tissues of the body from the irritating and paralyzing effects of the pneumococcal toxin; but it necessarily follows that those tissues will be insufficiently nourished and be exposed to the deleterious influences of being constantly bathed in a solution of their own cellular waste. In addition, when this waste-laden fluid later finds its way into the general circulation and is distributed throughout the body it may become itself an element of danger. Now, under these circumstances, shall we interfere, and if so in what manner? To this I would answer, that in the ordinary case I believe we should, and as follows: Early I would give a mercurial, followed by a saline cathartic; bleed to 500 or 750 c.c.; induce a rather free perspiration; give fluids freely; give digitalis and adrenalin hydrochlorate in efficient doses. By these procedures from 6 to 10 per cent. of the toxin in the blood vessels is removed, and that which remains is very considerably diluted; the capillaries are stimu-

lated to contraction, osmosis is increased, the bodily tissues are nourished and their waste products are speedily removed; the heart, instead of wildly beating against a partial vacuum is steadied by meeting a normal resistance. A second bleeding, later in the course of the disease, but anticipating obviously ominous symptoms, may distinctly turn the tide toward recovery.

LEUCOCYTOSIS.

In pneumonia there is a very marked leucocytosis, which has certain suggestive characteristics; *e. g.*, it appears simultaneously with, or follows within a few minutes after the initial chill; the polynuclears are absolutely increased, usually many fold; the eosinophiles are practically driven out of the peripheral circulation, to reappear with the earliest evidences of decline in pathogenic activity. That leucocytosis plays an important protective rôle must be acknowledged by anyone who gives the subject any observing and reflective study, although the exact nature of this defense remains, as yet, unknown. It is clear, however, that whatever is done is accomplished by those mobile secretory glands, the polynuclear leucocytes, discharging their neutral, or faintly alkaline secretion into the liquor sanguinis, and that this secretion combines with and neutralizes the pneumococcal toxins, or, possibly acts upon the tissues of the body in a manner to make them more resistant to the poison. Now it happens that in some cases there is but little or no leucocytosis, and experience abundantly shows that, although all cases accompanied by an increase of leucocytes do not recover, an exceedingly large proportion of those in which leucocytosis is absent die. Can we assist Nature in this field by stimulating the activity of the polynuclear leucocytes and by inviting them to invade, in force, the sanguineous current? It is my belief that this may be beneficially accomplished by the administration of nucleinic acid, and this I prescribe in every case in which a satisfactory leucocytosis fails to appear.

Nucleinic acid may be beneficial, also, in preventing cardiac and vascular thrombosis. This is offered, at the present time, only as a suggestion. Certain it is that in a short series of cases in which this agent was used the blood platelets were less numerous and the coagulability of the blood was less than in another series in which nucleinic acid was not employed. My observations, however, are far too few in number to serve as a basis for formulating a plan of treatment, having in view the object named, and the question can only be decided by further experience. Because of their known tendency to cause coagulation of the blood, lime and gelatin should not be given in pneumonia.

ANTIPNEUMOCOCCIC SERA.

The pneumococcus speedily dies in any culture medium, and its death is probably due to the toxins produced. We know that the human system appears to accommodate itself, somewhat, to the poison after the first onslaught of the disease. We also know that the symptoms rapidly subside at a time which corresponds to the greatly diminished virility or death of the cocci within the affected alveoli, and, consequently, at a time when presumably but little of the toxin is finding its way into the sanguineous current. Animal experimentation with dyalized toxins, the glycerinated extract of dead and dried bodies of the pneumococcus, the serum from pneumonic patients, and the serum from animals which have been subjected to long continued pneumococcal inoculations have, so far, been inconclusive, as to their prophylactic or curative powers; and clinical experience with the various sera which have been placed upon the market, in such an honorable manner, has been equally inconclusive. Certain it is that with an eagerly receptive medical mind they have failed to find that favor which is quickly and enthusiastically awarded every therapeutic novelty of real value. My own experience in the use of such sera has been too limited to be of any use in forming any conclusions, and the opinion expressed is that formed after a somewhat careful study of the literature upon this subject. I am free to say, however, that I have witnessed phenomena following the hypodermic injection of such sera which leads me to believe that they are agents of real and beneficent power. For example, in one case the injections were followed by the reappearance in the blood, while the disease was yet at its height, of those harbingers of subsiding toxemia, the eosinophile leucocytes. Analogy leads us to believe that a useful antipneumococcic serum may be produced, and I am hopeful that this will be accomplished.

USE OF CHLORID OF SODIUM.

One of the most remarkable of the pneumonic phenomena is the great diminution of, or disappearance from the urine, of the chlorids. It is probable, if not certain, that these are required in the blood, in the intra-vascular fluids of the body and in the alveolar exudate for purposes of defense against the pneumococcal toxins, or the parasite itself. If this is probably, or even possibly, true there is presented sufficient reason for the systematic use of chlorid of sodium as a therapeutic agent. In my own practice I direct that all foods, including, especially, milk, shall be well salted, and that saline enemata be given as freely and as frequently as they can be retained and absorbed. If patients are treated, systematically, in this manner, it will be found that, as a rule, the chlorids will not be entirely absent from the urine; and this may be taken as evidence that the system is being supplied with somewhat more chlorids than is necessary to meet its requirements.

UNCONTROLLABLE FETID DIARRHEA.

One of the late symptoms, in some, happily rare, cases of pneumonia which is certain to strike terror to the heart of those who are aware of its serious import, is the sudden onset of an uncontrollable fetid diarrhea, which may become involuntary and usually ends only with the patient's death. Often the appearance of such a diarrhea is entirely unexpected, although it is merely the culmination of a preceding intestinal sepsis which could have been detected, and probably corrected, if it had been looked for. In my opinion no case of pneumonia is properly managed in which careful and frequent investigation of the functional activity of the gastro-intestinal tract is not made. A paretic state of the intestines, with tympanitic distension and an inability to pass flatus should be recognized at once and proper relieving measures applied; indeed, this condition should be anticipated and prophylactic management should be the rule from the earliest period of the attack. In these cases the sulphates of the urine are always increased, sometimes to an enormous extent; *e. g.*, I have seen the 24 hours' urine contain the equivalent of more than 320 grains of sulphuric acid. In one case of this kind which I have had recently under observation there were present a large number of nucleated erythrocytes, and the blood was literally swarming with those small, deeply colored, lenticular bodies known as Eichhorst's corpuscles; but the significance of these hemic changes is not apparent. The management required to prevent these undesirable and dangerous conditions resolves itself into the regular and

thorough evacuation of the bowels; the proper regulation of the diet; and the administration of some efficient intestinal antiseptic, as, *e. g.*, salol.

OXYGEN.

It has been said that, in pneumonia, one of the most ominous of the physical signs is the presence in the sick-room of an oxygen outfit! In consultation practice this may be true, but I do not believe that the implied stricture is fairly applicable to ordinary family practice. Indeed, I believe that the employment of oxygen inhalations, begun early—certainly at the very beginning of that slight but steadily progressive increase in frequency and shallowness of breathing which the experienced physician so dislikes to see—and frequently and freely given, is a useful measure, and is one of the many things which may sometimes save a life which, otherwise, might be lost. I am not able to give any reasonable explanation as to how or why oxygen acts beneficially in these cases except the unsatisfactory one that it is a respiratory stimulant. Nevertheless, I use it, along with strychnia, caffein, camphor, morphia, etc., each of which agents, properly employed, are of the greatest value.

RAPIDITY OF CHANGE.

In typical cases of pneumonia there are three striking features which have always attracted the attention of clinical observers. I refer to the sudden and furious onset which transforms, in a few hours, the man of robust health to one prostrate with serious illness; the rapid subsidence of the acute symptoms at the time of crisis, by which he passes, again in a few hours, from a raging storm of morbidity to a state of comparative well-being; and the unexpected celerity with which the collapse which speedily ends in death appears upon the scene of apparently satisfactory progress. These rapid transformation scenes are, however, peculiarly characteristic of pneumonia, and the observant physician will have early noted that, from first to last, the clinical changes occur with remarkable suddenness. This leads me to advocate, with all the earnestness which I possess, that pneumonic patients be given careful, observant, intelligent and unremitting attention. They should be visited at frequent intervals or, in some cases, be given constant attention. I have had occasion, in more than one instance, to feel that the patient's recovery was due to the fact that the physician was present and prepared to act at the moment unfavorable and portentious conditions arose, and I am convinced that, in many cases, if such medical attention is not given, the patient is being deprived of some of the resources of our art, and that his chances of recovery are thereby directly lessened. It is scarcely necessary to remark, in the presence of this audience, that, in addition to the observations which were formerly made by every physician, the practitioner of to-day must bring to bear upon his case, in an intelligent manner, and in detail, and often, all the diagnostic resources of our time, including those of the clinical laboratory. In especial should his attention be directed to the state of the heart and capillaries; the urine; the blood; the nervous reflexes. The nursing and surroundings of the patient should be of the best which his means can procure, for I am sure that in but few positions of peril can the beneficent power of money be shown to better advantage than in a well-generaled combat with pneumonia.

Paraffin Prothesis.—Herczel states that he has prevented or cured prolapse of the rectum in a few cases by Gersuny's injections of paraffin. He has also thus cured a vesico-vaginal fistula, etc.

CASES OF SARCOMA AND OF HODGKIN'S DISEASE TREATED BY EXPOSURES TO X-RAYS—A PRELIMINARY REPORT.

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CHICAGO.

SARCOMA.

CASE 1.—This case was referred to me by Dr. A. J. Ochsner, Professor of Surgery in the University of Illinois. The patient entered Augustana Hospital in Dr. Ochsner's service August 18, 1901, when the history, of which the following is an abstract, was obtained: J. L. B., aged 24, clerk, had the ordinary diseases of childhood, otherwise he has always been well. He has not had syphilis. The family and personal history is without significance. Six months ago—February, 1901—he noticed a small hard swelling the size of a filbert below the angle of the jaw on the left side of the neck. This gradually increased in size. Ten weeks ago—May, 1901—he noticed a similar hard swelling the size of a filbert on the right side of the neck about an inch below the mastoid process. This has increased in size rapidly. During the past week he has been troubled with morning headaches, usually relieved by taking food.

Present Condition: He is a fairly well-nourished, spare-built man. A loud harsh murmur accompanies and follows the first sound of the heart. The lungs are normal. There is a hard, freely movable swelling the size of a hen's egg just below the angle of the jaw on the left side, which is not tender or painful. There is another hard mass underneath the upper third of the sterno-cleido-mastoid muscle on the left side, which is not freely movable, nor tender or painful. There is a very hard mass on the right side of the neck below the ear and mastoid process the size of a man's fist, which is not freely movable, nor tender or painful.

The clinical diagnosis of sarcoma was made by Dr. Ochsner and the tumors on the left side were removed August 19. The tissue was sent to Dr. Robert Zeit, Professor of Pathology in Northwestern University School of Medicine, for microscopic examination. Dr. Zeit's diagnosis was "small round-cell sarcoma." The patient made a prompt recovery from the operation and on September 2 was sent to me for a month's exposure to *x*-rays preliminary to a second operation. The left side showed a healthy scar. The condition of the right side of the neck at that time is shown in the accompanying photograph—Fig. 1—which, however, fails to show the full extent of the tumor. The swelling extended from in front of the angle of the jaw to within an inch of the posterior median line, and from the mastoid process almost to the clavicle. It was rapidly increasing in size. It was very hard, not freely movable and was now tender. The neck was almost rigid from the interference of the tumor with motion. The circumference around the neck over the tip of the chin, the apex of the tumor and the lower border of the hair was 21 inches.

The patient was put under *x*-ray exposures immediately, and these were continued from September 2 to September 27, during which time he got 21 exposures, with a hard tube and a weak light. The distance of the tube from the surface was maintained at 5 cm. and the length of the exposures varied from ten to fifteen minutes. Slight erythema appeared on September 17, and by September 27 this had developed into pronounced dermatitis, when the exposures were stopped. Within the next six days the dermatitis increased considerably and the surface became dark red, tender and denuded of horny epidermis. After this the dermatitis rapidly subsided and by October 12 was practically well. The effect of the exposures upon the tumor was almost magical. Within ten days it had shrunken perceptibly and

the motions of the head were freer. On September 17 the circumference around the chin was reduced to 17½ inches, a decrease of 3½ inches. On September 25 this was 16¾ inches and the tumor was reduced to the size of an olive. On October 11 there was no trace of the disease left except a small, freely movable, painless gland not larger than an almond kernel. There was no swelling, and all stiffness and interference with motion had disappeared. The condition October 11 is shown in the accompanying photograph—Fig. 2. On October 27 he reported to me as follows: "The gland you described as as large as an almond pit seems to be going away. It is not as solid as it was and I can move it freely. I have started to work." On December 7 he writes that as far as he can tell this side of his neck is as well as it ever was. The gland, he thinks, is now about half the size of an almond pit, and he can find it only by careful

Figure 1.

search. This report is repeated in a letter of January 12. He also reports that since September he has gained 12 pounds in weight.

We have here then a clinical diagnosis of sarcoma by Dr. Ochsner and a microscopic diagnosis of small round-cell sarcoma by Dr. Zeit. There can not be the slightest doubt that the tumor on the right side of the neck was of identical character with that on the left, so that the diagnosis of this tumor must be small round-cell sarcoma, a highly malignant variety of the disease. Under *x*-ray exposures alone—for the patient was given absolutely no treatment except *x*-rays—this sarcoma was made to disappear, and after three months without treatment it has not shown any evidence of recurrence.

CASE 2.—Man, age 67, osteosarcoma of the right shoulder, with symptoms of sarcoma of the bladder. There was profound cachexia and evidences of general sarcomatosis. The patient was put under *x*-ray exposures, chiefly with the hope of relieving his pain. He was given 16 exposures without any effect upon the tumor, but according to his voluntary statement with considerable relief from pain. With my approval the treatment was discontinued.

CASE 3.—Woman, age 60, with extensive inoperable sarcoma involving the right pectoral muscles and the right shoulder. She has been under treatment for a month with perhaps small shrinkage in the tumor. She was suffering from severe pain when the treatment was begun and was running down in strength. According to her statement her strength has increased considerably and there is great relief from pain. Her physician, Dr. William Fuller, of the University of Illinois, who referred the case to me, tells me that there is no doubt about the great relief from pain.

The second and third cases are reported, of course,

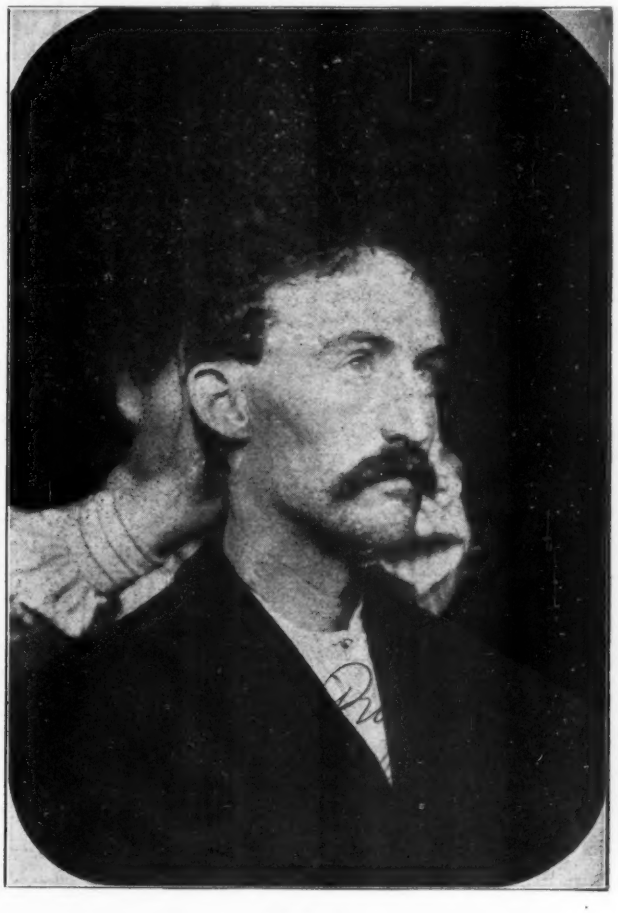

Figure 2.

simply that my record may be complete. The third case shows as yet nothing except some evidence of relief from pain, which is usually the prompt result of the use of *x*-rays in malignant neoplasms. The second case must be set down as a failure against the method, and yet I believe it may be fairly claimed that this case had reached a stage of the disease which will probably prove beyond relief by any local method of treatment that will ever be devised.

In the first case I believe the definite effect of the *x*-rays on a sarcoma is demonstrated as conclusively as a demonstration can be made in medicine. There is no link lacking in the evidence in this case of the effect of *x*-rays on a sarcoma. It is impossible to believe that the disappearance of this sarcoma was simply a coincidence

with the exposures to the rays. At the time the treatment was begun the tumor was growing rapidly, and its subsidence was *pari passu* with the accumulation of the effects of the rays. The patient had no intercurrent disease, such as an erysipelas, to account for the disappearance of the tumor and he had absolutely no other treatment. This is, of course, only one case, but the result is so startling that it must command one's interest. The case is not unique, although I do not recall another case in which the result was so complete. There are several authentic reports in the literature showing the favorable influence of *x*-rays on sarcomas, and bearing this in mind, I believe it may be maintained that in cases of sarcoma, which can not for any reason be treated successfully by surgical means, the effect of *x*-rays should be tried; and, further, in cases of sarcoma which have been treated surgically subsequent use of *x*-ray exposures as a prophylactic is a procedure which should be considered.

Figure 3.

Figure 4.

HODGKIN'S DISEASE.

In this connection I wish to refer briefly to two cases of pseudo-leukemia which I have under treatment by *x*-rays.

CASE 1.—Boy, age 4, referred to me by Dr. Ochsner. December, 1900, the mother noticed a swelling in the cervical glands on the left side, and soon afterwards a similar swelling on the right side. These steadily increased in size up to August, 1901, when Dr. Ochsner made a diagnosis of Hodgkin's disease and removed the glands on the right side. On September 11 he referred the case to me for exposure of the glands on the left side of the neck. The condition at the time that the patient came to me is shown in the accompanying photograph—Fig. 3. There was a mass of glands on the left side as large as a fist. Under *x*-ray exposures the swelling rapidly subsided, and in two months the glands were reduced to the size of an almond. The child has had intermittent treatment from November, 1901, to the present. There are a couple of cervical glands on the right side as large as a filbert, but they have shown no tendency to enlarge and there is no swelling. The condition of the patient January 8 is shown in the accompanying photograph—Fig. 4.

CASE 2.—Man, age 50, was referred to me by Dr. L. L. McArthur, surgeon to St. Luke's Hospital. About a year and a half ago the patient noticed enlargement of the axillary and epitrochlear glands on the right side. Both glands rapidly increased in size. The diagnosis of Hodgkin's disease was made by Dr. McArthur, and for some time the patient was under treatment with parenchymatous injections of arsenic, in spite of which the tumors steadily grew. On November 19 I undertook the exposure of the epitrochlear gland, while Dr. McArthur continued the arsenic injections in the axillary gland. At the time that *x*-ray treatment was begun the epitrochlear gland was almost as large as a goose egg and very hard. Within a month it was reduced to about one-third its previous size, and at the present time it is about as large as an olive and is quite soft. In the meantime the axillary gland under the arsenic injections showed no change, and on December 18, at Dr. McArthur's suggestion, I began exposures over that gland. It was then as large as a child's head and very greatly interfered with the motion of the arm. The patient insists at present that the gland is smaller and softer, and that he can use his arm very much more

freely. As an illustration of this, he is able to play billiards again, a thing he has not recently been able to do.

103 State Street.

SURGICAL CORRECTION OF MALFORMATION AND SPEECH DEFECTS DUE TO OR ASSOCIATED WITH HARE-LIP AND CLEFT PALATE.*

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MILWAUKEE, WIS.

The purpose of this discussion is to make clear advantageous possibilities in the treatment of hare-lip and cleft palate by a new method which, 1, reduces the width of the fissure and thus renders a subsequent operation for closure by operation upon the soft tissues more certainly successful and more beneficial by preserving the usefulness of the soft parts; 2, by readjustment of the unequally developed bone structures, gives a more perfect contour to the form of the face after operation; 3, makes it possible to operate successfully upon patients almost with regard to age limitations. The objects which make relief of some kind desirable if not imperative for patients so afflicted, whether the method of procedure be surgical or prosthetic, may be summed up in the two considerations, health and speech, for the purpose of all treatment must be directed toward improvement in one or both of these requisites. Malformations of this nature affect the general health of individuals chiefly in two ways, by malnutrition due to inability of infants to take sufficient nourishment properly, which interferes with normal development sometimes to so great an extent as to place the lives of such children more or less in jeopardy, and nasal catarrh caused by irritating secretions, bacteria and foreign matter which gain access to the nasal passages through the opening from the oral cavity, or constant exposure of the nasal mucous membrane to external irritants. This diseased condition usually extends to the pharynx and carries in its train many associated disorders that affect the adjacent frontal maxillary and ethmoidal sinuses, involving also the nervous and circulatory disorders.

In classifying cleft palate cases, the first division recognized between acquired and congenital cases is important but quite insufficient, and much depends upon a correct and distinct classification of subdivisions under these two heads, which will facilitate an intelligent understanding of the nature of each division, its relation to the particular kind of treatment required and the special difficulties each presents that must be overcome in effecting a cure. Strangely enough, there seems to be little or nothing especially clear or valuable in this direction to be found in literature upon the subject.

Acquired cases have one of two etiologic factors: disease or accident. When the tissues of either soft or hard palate are destroyed by pathologic condition, naturally the advisability or inadvisability of an operation would be determined by the nature of the cause. For instance, in syphilitic cases, operation would usually be contraindicated, because of the tendency to still further loss instead of restoration of tissue. If the opening be confined to the hard palate, as frequently occurs from necrosis, such an opening is much more easily and better covered by a nicely-fitted denture, but if the tissue of the soft palate has become involved, speech is impaired to such a degree that more or less risk is warranted in the hope of restoring the ability to speak distinctly.

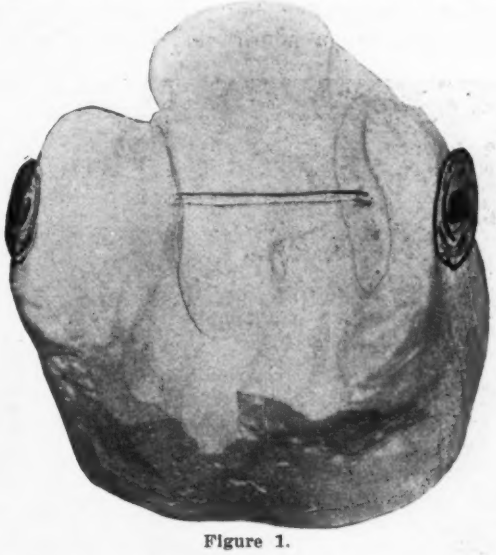

Figure 1.

Classification of congenital cases presents difficulties which can best be understood by considering them with regard to the nature of the deformity, since there are such notable differences between typical forms of

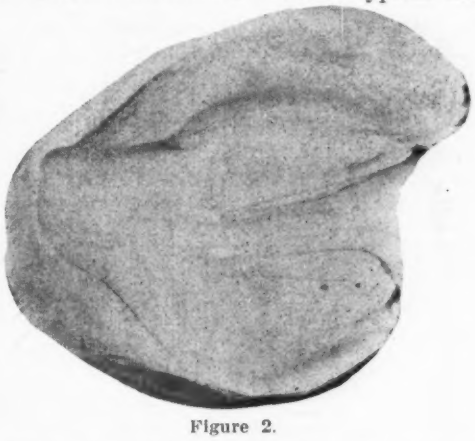

Figure 2.

congenital fissures of the palate and lip, each with its own characteristic difficulties to combat in treatment, and again, in order that the surgeon may intelligently undertake their correction, it is necessary that

Figure 3.

another distinction be made with due regard for the vital question of age in relation to operative procedures. Under 1, we distinguish clefts in the soft palate with hard palate normal; 2, a continuous separation through both hard and soft palates; 3, double cleft, which may

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee.

bifurcate from a single one at the intermaxillary bone, or may make two continuous fissures through hard and soft palates. Age requires recognition by the following divisions representing distinct operative differences: 1, infants for whom immediate operation may become necessary on account of inability to obtain proper nourishment; 2, eight to ten months old; 3, after the deciduous teeth have erupted but before habits of speech are fully established; 4, older children and adults after the eruption of permanent teeth.

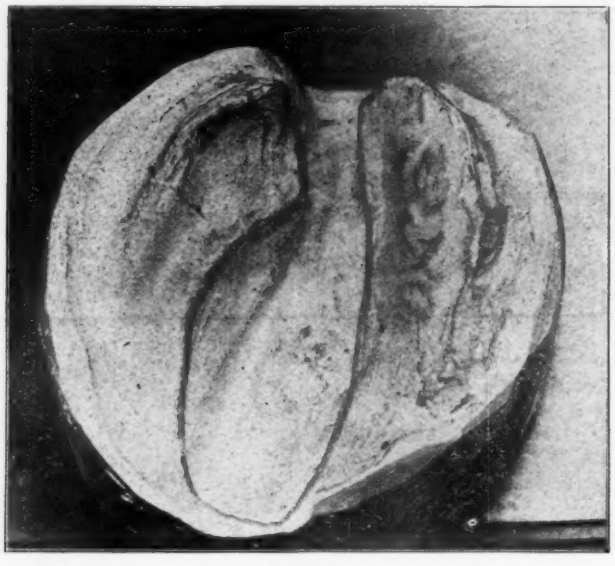

Figure 4.

HIGH MORTALITY IN INFANCY.

The danger and high rate of mortality recorded after infants have been operated upon are too well understood among surgeons to warrant an extended discussion, for whether the death rate be 50 per cent., as given by Ehrman, or something less, as stated by Sched, Wolff, Fowler and other writers, it nevertheless goes without saying that if good results can be obtained by operation performed when the child has gathered power of resistance, the method which can accomplish this result must be the better method. So long as it was claimed that in order to have perfect union of the parts and anything like a perfect development of speech afterward, it was absolutely essential the operation be performed in early infancy such operations might then be excusable, but while it must be admitted that infants take chloroform with comparatively little danger, and that they do not suffer shock through fear of danger the nature of which they are unable to comprehend, it is only too true that they bear the loss of blood badly. In such cases, with the mouth full of wires and sutures, the inducement to take nourishment through the mouth is not very great. In fact, rectal feeding must almost invariably be resorted to because the digestive tract suffers more or less disturbance from bacteria, from the wound surfaces and in various ways. If nourishment per rectum can be continued and vitality of the child sustained until the stomach and intestinal tract are sufficiently restored to perform their normal functions, success might reasonably be expected, but too often irritation of the rectum interferes before the activity of the digestive organs is restored; then and frequently does the prognosis become exceedingly grave.

Figure 5.

Figure 6.

Figure 7.

CHILDREN AGED SEVEN TO EIGHT MONTHS.

When the child has passed through the first seven or eight months of infancy and is upon a fairly secure vital

basis, the treatment preparatory to a future operation for hare-lip can best be given by the method shown in illustration, Fig. 1, and the reasons why such preparatory treatment is necessary by Figs. 1, 2, 3, 4, 5, which portray the unequal development that is invariably found

Figure 8.

in these cases. If no such preparatory treatment be given there will be a less perfectly shaped mouth, because of the extreme tension due to an effort to make the tissue bridge such a wide space, and a flatness of the mouth, be-

Figure 9.

cause there is no bone structure behind it, also a flatness of the ala of the nose upon the affected side, with deflection of the nasal cartilage to the opposite side, giving a markedly irregular appearance to nose, lip and face. This is due to the fact, very clearly noticeable in the pictures referred to, that arrest of development of the jaw upon one side or the other causes a decidedly uneven appearance to the face. Since on one side the bones of palate protrude while upon the other there is a corresponding recession. To overcome this a heavy wire suture is passed from the buccal surface upon one side directly through both portions of the jaw to

Figure 10.

the buccal surface of the other, drawn closely and fastened at each side with little silver plates to prevent it pulling through—see Fig. 1. The direction of this wire is governed in such a way that when it is slightly twisted in the center of the mouth from day to day the

Figure 11.

tension will bring forward one side and draw back the other. This force, while gently and regularly exerted, is sufficient to alter the form of the bones in any direction desired, at the same time it brings the two sides of the cleft nearer together and reduces the difficulty of the future operation upon the palate quite materially. When the proper form of adjustment has been secured in this

manner operation for hare-lip can be performed very easily and perfectly, because the space to be covered has been reduced to the minimum. The nose and bones of the face are thus straightened, and in all respects the result is more perfect than could otherwise have been accomplished. This is shown in Figs. 4, 5, 6, which are pictures of the same baby and cast of his mouth before operation. The wires can then be removed, because the tension of the lip muscles will continue to exert a force, which will prevent widening of the cleft in the palate that would otherwise take place and continue to narrow it. Thus the operations of uranorrhaphy and staphylorrhaphy become much simplified and can be performed at any period that may seem most favorable to the circumstances and condition of the patient. Figs. 7, 8, 9 portray in some degree the appearance of a child for whom the unopposed muscles had pulled the detached intermaxillary bone until it stood out in such a way as to appear to be a continuation of the nose, from the end of which two teeth were being erupted. In this case a little more than an inch of the projecting bone

Figure 12.

was resected, the borders of the jawbone on each side freshened, the intermaxillary forced back to its natural position and wired to the lateral portion of the jaws; operation for double hare-lip was then performed, with the result shown in Fig. 10. By removing a section from the middle of the bone instead of cutting off at the end to restore the defective form of the face and lip, the erupting deciduous teeth, together with the germs of permanent ones, were preserved, and we know as the child becomes older the development of these teeth will give to face and jaws an almost perfect contour instead of the deformed appearance which would otherwise have resulted.

CHILDREN WITH DECIDUOUS TEETH.

The care of cases of the third class is illustrated by Fig. 11. In these the deciduous teeth form attachments, to which are cemented metal bands that hold the appliance, which consists of a nut and bar with a thread cut upon it, so that all the different parts are brought into place by turning the nut slightly several times a day, such a pressure being brought to bear that the parts upon each side are drawn towards each other. In children of this age the bones yield readily, and in a few days, without pain or serious inconvenience to the child, the two sides of the cleft can be approximated so closely that when a bur in a surgical engine is passed along between the two borders it will cut off the soft tissue and also freshen the borders of the bone. The parts can then be screwed tightly together and the hard palate given opportunity to unite without fear of sloughing, with the result that a complete bony union is secured, which in most cases can be depended upon to include all that portion of the cleft from the first deciduous molars forward. The benefit of this is apparent because of more complete circulation, which renders the later operation to be performed for closure of the posterior portion of the cleft and the soft palate much less likely to be unsuccessful than it would be under other circumstances. Beside this, the space is so much narrower than would otherwise be the case that the operation is in all respects so simple as to make a good result comparatively certain. Again, with the bones united, we know that after the permanent teeth are erupted an orthodontia appliance which will exert pressure in ex-

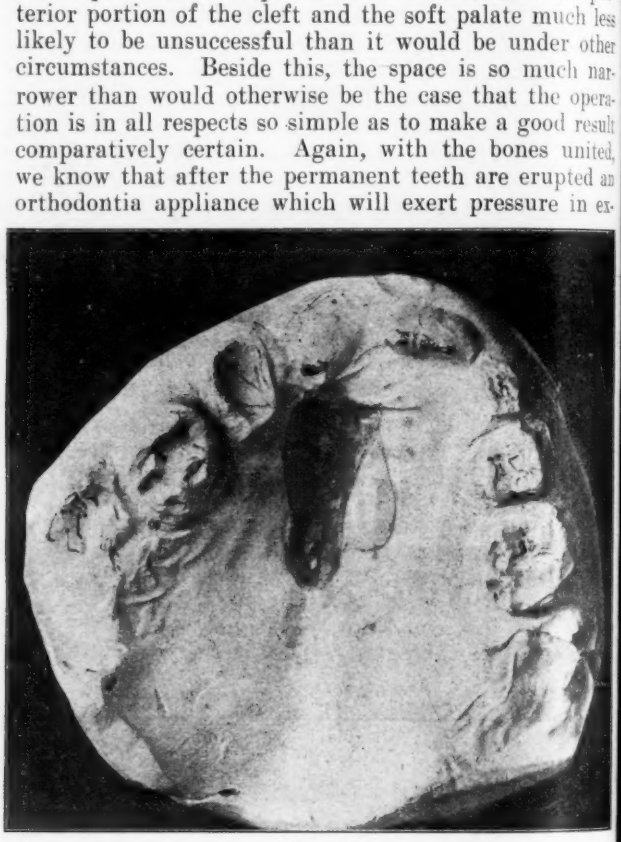

Figure 13.

actly the reverse direction from the one used in reducing the cleft will widen the arch again to normal and even perfect form. Fig. 12 shows No. 11 after operation; Fig. 13 shows the case of a little boy who had been operated upon five or six different times unsuccessfully by other methods, but whose palate fissure was easily reduced by this method in a very short time.

(To be continued.)

Prizes Awarded by the Paris Academie de Medecine.—Among the foreigners who received prizes at the annual ceremonies of the Académie, were Miss Lipinska, M.D. of Odessa, Russia, for her work on the "History of Medical Women from Antiquity to Our Day"; Dr. H. Christiani and Madame A. Cristiani, M.D., of Geneva, received the Louis prize of 3000 francs; Dr. Zinno of Naples, 600 francs; Dr. Dalla Vedova of Rome, for an article on the "Pathogenesis of Simple Ulcer of the Stomach," and Dr. E. Ehlers a prize without money for his historical work on the "Leper Hospitals of the Middle Ages." Dr. Remlinger of Constantinople also received part of a prize. Most of the prizes were divided and an "encouragement" of 1000 francs was given to Professor Carrière of Lille from the great Audiffred tuberculosis prize.

TRAUMATIC ARTERIO-VENOUS ANEURYSMS OF THE SUBCLAVIAN VESSELS,

WITH AN ANALYTICAL STUDY OF FIFTEEN REPORTED CASES, INCLUDING ONE OPERATED UPON.

RUDOLPH MATAS, M.D.
NEW ORLEANS.

(Continued from page 107.)

OPERATION.

On Sept. 13, 1900—the ninth day after injury—after all preparations had been completed, and with the valuable assistance of Drs. H. B. Gessner, S. M. D. Clark, John Smyth, U. Maes, and Dr. Power, who acted as recorder, the operation was undertaken. The operation was begun at 9:20 a. m., and it was 2:30 p. m.—nearly five hours—before the patient was taken back to his bed, though the actual operative work did not consume three hours. Much of the time was consumed in giving the patient periods of rest, especially during the local anesthesia stage of the operation. During these rest periods, as is often done in tedious operations under local anesthesia, the patient was given freely of ice water, panopepton, toddy, and even beef tea, all of which he enjoyed immensely, and helped him greatly to control himself. Even after chloroform had been administered he was never fully unconscious, except for a few moments, and would frequently rouse up to call for ice water or other drinks, which were given to him liberally without ever exciting nausea or vomiting. We will begin the narrative of the operation by stating that in anticipation of the long duration of this operation and of the advantages that would be gained by diminishing the risks of prolonged saturation with a general anesthetic, and with the view of diminishing the turgescence of the jugular and other cervical veins, which were already greatly distended, and would be likely to swell still more under general narcosis and vomiting, I decided to attempt the preliminary resection of the clavicle by means of local anesthesia. I was encouraged in this by the calm and fearless temperament of the patient, who showed no anxiety in the contemplation of the operation or of his surroundings. It was not my intention to perform the entire operation under local infiltration anesthesia, but simply to economize the general anesthetic by adopting infiltration anesthesia during the first stages of the operation, viz., 1, the resection of the clavicle, and, 2, the application of a provisional loop around the innominate. The advantages of local anesthesia during these two important stages of the operation were not exaggerated, as we found subsequently, because we were relieved of all anxiety and annoyance on the score of vomiting or other disturbances in breathing from cyanosis, etc., which might have caused a great turgescence of the jugular, subclavian, and innominate veins while exploring the pretracheal region for the innominate artery. As it was, the patient gave us great assistance by voluntarily changing the position of his head to suit our needs as we displaced the distended and pulsating venous trunks of the aneurysmal and cervical region. The stoicism of the patient under these circumstances, his perfect immobility and passiveness, which permitted as deliberate and free a dissection as on a cadaver, offered a truly remarkable spectacle worthy of the greatest respect and admiration.

It was not until after the provisional security loop had been placed upon the anomalous subclavian, and after a long and tedious search had been made for the missing innominate, and not until we had begun to encroach upon the deep branches of the cervical plexus, which for obvious reasons we could not infiltrate, that he complained of pain, and we at once proceeded to administer chloroform. This was at 11:55, a little over two hours after the beginning of the operation; the general anesthetic was given in drop doses and interruptedly from 11:56 to 1:30—one hour and thirty-four minutes—after which it was discontinued altogether. It should now be stated that twenty minutes before beginning the operation the patient was given ¼ gr. morph. sulph. hypodermically, which is usual in my practice as a routine procedure in all large local anesthesia operations.

In order to describe the operation systematically it will be divided into the following stages:

First Stage. Section of the clavicle at the junction of the middle and outer thirds.—For this purpose the skin overlying the clavicle and all the periosteal tissue were densely infiltrated with Schleich's No. 1 solution 1/5 of 1 per cent., eight syringefuls, each containing 22 minims, being used. The clavicle was denuded of its periosteum; two drill holes were made on each side of the proposed line of section to facilitate wiring at a later stage, and the bone was divided with a Gigli saw.

Second Stage. Formation of osteoplastic clavicular flap.—A curvilinear incision extending from the line of clavicular section two inches below the clavicle, including the points of penetration of the bullet, and carried across the right sternoclavicular articulation to the middle of the neck, where it terminated opposite the lower border of the thyroid cartilage.

The incision was made painless by a massive infiltration of 3.5 ounces of an isotonic saline solution of eucain B.—0.1 of 1 per cent.—dissolved in 0.8 per cent. salt solution along the whole line of incision, causing complete edema of the infiltrated points. This was injected with my special infiltration apparatus. The whole surface was covered with an aseptic ice and salt poultice, which was kept in place eight minutes. The skin, subcutaneous tissues, and clavicle and sternomastoid tendon, previously mobilized by section, were now elevated and the sternoclavicular joints disarticulated, after previous peri- and intra-articular infiltration of the tissues of joint with Schleich's cocain sol. No. 1—0.2 of 1 per cent. cocain. Some pain was experienced in making traction upon the tissues of the neck while disarticulating.

Third Stage. Dissection and elevation of osteoplastic flap formed by clavicle, skin, sternomastoid, and subcutaneous tissues.—The flap turned up and rolled upon itself, exposing the deep cervical aponeurosis, the sternohyoid and sternothyroid muscles, anterior jugular and thyroid veins, all large and pulsating; termination of the cephalic into the subclavian was lost in a mass of densely infiltrated tissues and exudates. Time, 10:45 a. m. Pulse, 96, good; patient cheerful, but tired. Very little bleeding thus far; few ligations. In anticipation of more exhausting work a hypodermic of 1/100 gr. digitalin and 1/30 gr. strychnin were given, with a glass of ice water and 2 ounces of strong toddy. After an interval of ten minutes of rest, the operation was resumed.

Fourth Stage. Exposure and preparatory control of the venous side of the aneurysm.—In view of possible hemorrhage from traction and tearing, the veins while elevating the osteo-cutaneous flap high enough to clearly and freely expose the injured vessels in the region of the scalenes, it was thought the better plan to begin this stage by thoroughly exposing the venous side of the aneurysm. The subclavius muscle, which had remained in the wound, on account of the close enucleation of the clavicle, was now divided and excised. The cephalic

vein was exposed and followed to its terminus in the subclavian vein, and the turgid bunch of veins formed by the posterior scapular, suprascapular, transverse cervical, and external jugular veins was dissected out with much difficulty on account of dense adhesions, and traced to a common terminal in the subclavian. The subclavian vein was now identified, but not without some delay, because it seemed to be divided into two very distinct parts, one on the axillary side being very much smaller than the other. This small axillary part appeared to rise up in the neck, where it could be traced to an ill-defined mass of organized exudates and extravasated products, which completely masked the outlines of the scalenes. The brachial plexus, the subclavian artery, and anterior scalene were all inextricably blended in the mass, which, judging by the pulsation and intensity of the purr and thrill, must be the seat of the aneurysmal orifice. But the anatomic characteristics of the tissues were entirely lost; not even the tendon of the scalene could be made out, as it was completely incorporated in the dense and resisting mass of exudates.

The axillary portion of the subclavian vein appeared to have been dragged upward into this mass, forming an angle.—See diagram.—In the proximal or cardiac side

Diagrammatic representation of arterio-venous communication—after excision of clavicle. 1, Scalenus anticus; 2, scalenus medius; 3, subclavian vein; the arrows show direction of arterio-venous current; 4, internal jugular vein; 5, innominate vein; 6, axillary portion of the subclavian vein much reduced in size as a result of angular traction from adhesion of vein to scalenus, and great distension of proximal side of vein with arterial blood poured in by artery; 7, 7, anomalous subclavian artery; the innominate absent (no carotid); 8, anastomotic orifice indicated by dotted lines; St, sternum. Case of M. M.

the subclavian vein formed an enormously distended trunk, which crossed over the first rib and was lost behind the sternohyoid muscles, where it united with the internal jugular. The contrast in the size of the axillary and cervical portions of the subclavian was remarkable, and could only be accounted for by the formation of a valvular projection in the bend of the vein, where it inosculated with the artery. Catgut ligatures were now placed upon all the tributaries of the subclavian as they entered into the axillary side of the vessel, and a provisional silk ligature, not tightly drawn, was applied to the main trunk itself, on the axillary side, a short distance before its entrance into the mass covering the scalenes. The distended trunk of the subclavian vein on the proximal side was now dissected carefully at a distance from the supposed point of anastomosis, in readiness for provisional clamping or ligation when the arterial side of the aneurysm would be controlled. It was evident that any further obstacle placed on the circulation on the venous side without previous arrest of the arterial circulation would have led to such strain at the anastomotic opening that it would have caused its premature rupture.

Fifth Stage. Exploration in search of the innominate and provisional loop around anomalous subclavian applied.—The arterial trunks on the proximal side of the aneurysm were now explored with the finger.

The subclavian artery could not be identified in the mass covering the scalenes, and all efforts were centered upon securing control of the vessel in its first division. The sternomastoid tendon at its junction with the sternum, the sternohyoid and sternothyroid muscles were freely divided at the junction with the sternum, and were retracted with the overlying skin toward the left side of the neck by passing a loop of silk thread through the musculo-cutaneous flap thus formed.

The first obstacle encountered was in the presence of the enlarged internal jugular, subclavian and innominate veins, which, upon being freed from the confining restraint of the deep cervical aponeurosis and tense muscles, immediately formed huge swollen trunks which completely crowded the field of operation.

Fortunately, the disarticulation of the clavicle and free division of the muscles of the anterior cervical region afforded a free and easy access to the contents of the superior mediastinum. Taking the internal jugular trunk as a guide, it was followed to its junction with the subclavian and to the right innominate, which was clearly identified. By carefully displacing this to one side and the trachea on the other, I expected to find the innominate artery without difficulty, but much to my surprise I failed to find this vessel. Instead of this trunk I found a very large vessel which ascended upward into the right side of the neck in the direction of the subclavian artery; but the common carotid was absent, and for the time being I was perplexed at this unexpected state of affairs. In order to satisfy myself further, I followed this anomalous vessel down into the mediastinum, and was able to trace it with the tip of the finger to the arch of the aorta. I then made a search for the common carotid in the upper part of the wound, and was much surprised to discover that this trunk was absent from its usual place, and evidently came from behind the trachea, and only reached the surface at a high level near the thyroid gland. It was evident, therefore, that there was no innominate artery, and that we were dealing with one of those comparatively rare anomalies which are familiar enough in the dissecting-room, but are extremely rare in the history of surgical ligations. It took quite a while before I could satisfy myself that the innominate was missing altogether, as I had not anticipated this anomaly. Leaving anatomic explanations for future consideration, I proceeded to place a provisional silk loop for traction on the anomalous subclavian—Rivington's plan—on a level with the sternoclavicular joint. When traction was made upon this loop the pulsation and thrill in the subclavian area and in the veins were arrested.

It evidently controlled the circulation in the aneurysm at that time. When this was ascertained, the loop was entrusted to Dr. Gessner.

By this time—11:55 a. m.—the patient, who had been most patient and calm, began to show signs of restlessness and physical exhaustion, and I decided that the time had come to give him a general anesthetic. Chloroform was administered in drop doses, and the pulse, which had risen to 114, fell to 100 immediately after the first inhalations. The patient was so tired physi-

cally and psychically from prolonged mental tension that he inhaled the chloroform greedily. It acted most happily upon him, and soothed him without producing absolute unconsciousness, which he proved by replying intelligently to our questions, making inquiries as to the progress of the operation. He never complained of the least nausea, and drank repeatedly of cold water, toddy, and even hot beef tea, whenever we stopped to give it to him. It was only when the serious hemorrhage occurred in the sixth stage that he became momentarily unconscious, and it was then, in a large measure, due to shock and exhaustion.

Sixth Stage. Detachment of the subclavian vein from the artery at the point of injury after failure to identify the third portion of this vessel outside of the scalenes on account of mass of exudates which masked it completely. Profuse hemorrhage from the artery at the anastomotic orifice, in spite of complete control of this vessel at its origin. Final ligation of the artery on each side of the bleeding point. Closure of the venous orifice by suture without obstructing the lumen.—This proved to be the only critical and dangerous stage of the operation. While Dr. Gessner controlled the subclavian at its origin I made an effort to dissect the artery out of the mass of exudates in which it was embedded; this was so difficult on account of inextricable anatomic confusion, caused by extravasation and exudates, that I decided to reach the artery by following the vein to the anastomotic orifice. A long forceps was temporarily placed upon the overdistended vein on the proximal, or cardiac, side of the vein and a careful dissection was begun, following the axillary side of the vein into the mass which covered the scalenes. While doing this, the vein became suddenly detached, and instantly a flood of mixed arterial and venous blood deluged the field and compelled immediate concentration upon this point to check the flow, which for a moment appeared to defy all efforts at local compression with gauze pads and fingers. Vigorous traction upon the loop around the origin of the subclavian, held by Dr. Gessner, did not control the bleeding, which evidently came from the vertebral and other collaterals into the now severed anastomosis.

The bleeding point could not be easily localized; some blood was flowing out of the detached vein, but this was easily controlled by forceps, the chief hemorrhage came from the opening in the mass of exudates covering the scalene. By the application of one finger, and then another the bleeding was finally controlled, but the least relaxation of the pressure immediately allowed it to flow in a gush. With the finger on the bleeding point, reinforced by the additional finger of one of the assistants, Dr. Maes, I made a vertical incision into the mass by the side of the finger, and succeeded in bringing to view the aponeurotic edge of the scalenus anticus, which I detached almost completely from its insertion by cutting into it from the axillary side on a level with the tubercle; the muscle was not entirely detached at its insertion for fear of injuring the phrenic nerve, but the section was sufficient to allow me to insinuate the right index into the interscalenal space, where I recognized a firm, flat cord, which I took to be the third portion of the subclavian artery. The vessel was now seized with a long-bladed clamp. I then cautiously removed my left index from the bleeding point on the scalene, and had Dr. Maes substitute his fingers for mine over the orifice, which he did so quickly that no blood was lost in the exchange. I was then able to trace the subclavian artery from the point where it had been grasped by the forceps to the posterior surface of the scalene. The artery was found adherent to the posterior surface of the muscle, the bullet having perforated it in its central portion. The muscle was interposed like a diaphragm between the artery and the vein, leaving only a small opening, scarcely large enough to admit an ordinary lead pencil through it. By retracting and pulling on the outer border of the partially divided scalene, the posterior surface of the muscle could be brought to view, and the continuity of the injured artery could be established on the proximal, or cardiac, side of the vessel. Another long, narrow-bladed forceps was now placed upon the vessel just beyond the point of adhesion to the muscle, thus occluding the lumen of the vessel on the cardiac side of the perforation. When this was done, digital compression was discontinued, and we had the satisfaction of seeing that all bleeding had been arrested. A fine, kangaroo-tendon ligature—Van Horn—was now applied to the subclavian artery outside of the scalene, and another of the same material, to this vessel on the inner side of the perforation, which had apparently involved three-fourths of the circumference of the artery. The artery was then divided completely at the injured point. Fearing that the proximal side of the artery had not been sufficiently secured, and that the ligature might slip because it was too close to the divided edge, another ligature was placed almost half an inch beyond the first on the inner side of the scalenus muscle. In order to do this effectively the divided or free end of the artery was seized with long-bladed forceps, and was forced to the surface through the mass of exudates which still covered and filled the right prevertebral space. The ligated stump then appeared on the inner edge of the muscle, where it was pulled out and twisted upon itself, and then ligated, as previously stated, about three-fourths of an inch from the terminal ligature. This ligature must have been placed very close to the origin of the thyroid axis and internal mammary, and the axial rotation, to which the main trunk was subjected, must have had some effect in occluding the origin of these vessels. It is possible, also, that by adopting this radical procedure much interference was caused with the collateral supply furnished by these important branches, as I can account in no other way for the sloughing of the hand and arm which followed. I was, however, so profoundly impressed at the time with the enormous force of the collateral circulation through the vertebral and internal mammary that I would take no chances of secondary hemorrhage by leaving a single ligature at the terminal and injured part of the artery. In fact, I would have ligated the vertebral if the condition of the patient would have permitted of longer delay. After these ligatures had been applied and the vessel thoroughly secured, the traction loop on the mediastinal portion of the subclavian was removed.

The subclavian vein, which had now been detached from the mass of exudates which bound it to the anterior scalene and the arterial opening of communication, was carefully examined. It was found to be circular and to involve only a part of the lumen of the vessel. We therefore proceeded to suture this orifice, and closed it completely without occluding the lumen of the vein. After this had been done the clamp and provisional ligature placed on each side of the sutured point were removed, and it was noticed that the circulation in the vein was restored, though the caliber of the vessel was very much reduced in size, the return flow from the axillary side being very small on account of the great diminution in the arterial supply of the arm.

The subclavian and jugular veins, which previously had been enormously distended, now became very flat and much reduced in size, and presented a very marked contrast to the conditions existing prior to the ligation of the artery.

The patient's condition had, in the meantime, undergone serious and unfavorable changes during these long, tedious, and exhausting manipulations. The pulse at 11:16 was 100; at 12, it was 120; and at 12:20, when the first great gush of blood followed the detachment of the vein, it rose immediately to 140. The quality of the pulse, which had been remarkably good before, now showed the marked effects of shock, though it remained fairly good. Nevertheless, we decided to infuse with saline solution, and four and a half pints of hot salt solution—0.7 of 1 per cent.—were injected through the median basilic, which had been exposed and held in readiness for the purpose. This brought down the pulse to 108; but it again grew weak, and at 2 p. m. was 140 again. In the meantime the patient, who was very pale and covered with a profuse cold sweat, was made to drink freely of toddy and given hypodermics of strychnin and digitalin, with 0.01 gr. of atropia sulph.

Seventh Stage. Readjustment of flap; closure of wound; drainage.—While these restorative measures were being vigorously applied we attempted to replace the clavicle with the osteoplastic flap—skin, aponeurosis, sternomastoid—into position, but found that by so doing it would be difficult to obtain a complete apposition of the soft parts above the clavicle, and thus leave dead spaces. I therefore decided to sacrifice the bone for the sake of obliterating all dead spaces, and removed it entirely from the musculocutaneous flap, to which it was firmly attached by its periosteal covering. An iodoform gauze drain was left in the anterior mediastinum, and the flap was sutured into place by a series of interrupted silkworm sutures.

Eighth Stage. The bullet was extracted by an incision over the anterior edge of the trapezius, and found to be a 38-caliber and absolutely undeformed. It had not even grazed the clavicle, as I at first suspected, and had passed upward under the bone without touching it. This remarkable fact could only be accounted for by the elevation of the arm when the patient was shot, and while he was holding his antagonist to the ground.

A large, firm, dry gauze compress was now applied over the field of the operation, reinforced with an absorbent cotton pad, all being held by a long spica, which equally compressed the wounded surfaces. In addition, large broad strips of adhesive plaster were applied over the bandage and over the shoulder, from the scapular region to the chest, thus giving additional security to the bandage. The arm, which was quite cold on the affected side, was now wrapped up in cotton batting from the fingers to the axilla, the cotton being held in place by a loose, spiral roller bandage.

The patient was perfectly conscious, but completely exhausted and shocked. He was extremely pale, the pupils moderately dilated, and the pulse small, and for a few moments after he had been transferred to the rolling carriage it was very small and scarcely perceptible at the wrist. He complained of chilly sensations and shivered. After warming him with hot bags and blankets he was, at 2:45 p. m., taken to his bed, when he was given a toddy and copious draughts of ice water, which he craved incessantly, and which fortunately he never rejected. At 3:45 p. m. he was still extremely weak, almost collapsed; he felt cold on the surface, but the thermometer in the rectum showed a temperature of 103.6. At 4:50 p. m. the rectal temperature was 104, and half an hour later 104.2. At 10 p. m. his pulse, which at one time had risen to 150, had fallen to 100, beating regularly, full, and strong; his temperature had fallen to 101.6, and he was resting quietly, but perspiring profusely as defervescence progressed.

(To be continued.)

The Organization of the Medical Profession.

(Continued from p. 113.)

II.

OBJECTS OF ORGANIZATION.

Last week we quoted the objects of organization as given in the constitution of the American Medical Association. The paragraph analyzed gives the following: 1, to foster the growth and diffusion of medical knowledge—educational; 2, to promote friendly intercourse among physicians—social; 3, to safeguard the material interests of the profession; 4, to elevate the standard of medical education; 5, to secure and enforce medical laws; 6, to enlighten the public in regard to hygiene and preventive medicine; 7, to compel recognition by the laity of what our profession has done for humanity. Simply a statement of the above as the basis of organization ought to be sufficient to convince any physician of his duty, namely, to assist in every way possible in furthering these objects.

Scientific and Educational.—The noblest and most worthy object for which a medical society is organized is the education of its members in that which relates to their work. There is no other calling in which it is so necessary to constantly study as in that of medicine. Medicine is not an exact, but a progressive science, and until perfection is obtained and all of Nature's secrets are learned, it will continue a progressive one. Theory alone governed the medical men of old even as regards the gross structure of the human body. Until 1543, when Andreas Vesalius published his "Fabrica Humani Corporis" there were practically no facts for the foundation of medical practice, and it was almost centuries before the facts that Vesalius gave us were appreciated. The physiology of breathing was a foolish theory until Mayow, in 1668, discovered a partial fact in his *igneo-aereal* substance, but it took a hundred years for a Priestley to discover the whole of that fact and name it oxygen. Facts took the place of theory very slowly until the last fifty years, and even until the last thirty years. But now facts are rushing upon us so rapidly that theory in every branch of medicine is tottering. Not two decades ago, since possibly a majority of those now practicing graduated, the theory as to the cause of inflammation of the bowels, peritonitis and perityphlitis has been supplanted by the fact of an inflamed vermiform appendix; and the fact that an insect causes the spread of malarial fever, yellow fever, and possibly other diseases, is taking the place of various theories. Never in the history of medicine has there been such rapid supplantation of theory by facts as is now taking place. So that the man who starts out from a medical college with his degree is laboring

under a most serious mistake if he thinks that he is educated. For even if he has mastered the medical knowledge of the day, which is improbable, he has entered a profession that is moving forward, and if he would be among the first he must associate with those in the front and be spurred on by their enthusiasm and by their assistance. He who does not is bound to be left behind. The knowledge of what is going on in regard to medical progress can be learned from medical journals, but with difficulty. It may be stated that a very, very few do keep in touch with this progress by reading only; the progressive men belong to medical societies. Progress is not made by jumps and bounds. "What we know and what we think is not a new fountain gushing forth from the barren rock of the unknown at the stroke of the rod of our own intellect. It is a stream which flows by us and through us, fed by the far off rivulets of long ago." (Foster.) The ebb and flow of this stream is reflected first in our medical societies, and then, but with less interest, in our scientific journals. In the former every statement is examined, criticised, proven false or true by the reasoning together of those competent to judge. In the latter, the same statement appears cold and is to be analyzed by the individual reader by himself alone.

The meeting together in medical societies makes physicians broad-minded and liberal toward the views of others. It makes the average individual recognize his own shortcomings and the abilities of others. It stimulates study and investigation, for the greatest stimulus to study and investigation comes from association with students and investigators. The competition of trade urges the merchant to greater enterprises, and seeing his fellow-laborer at work nerves the toiler's arm. The stimulus of association with the workers nerves those with ambition to keep up with the leaders.

The physician, especially the general practitioner in the country, works under peculiar and in some respects unfortunate conditions—he works alone. Men in other callings either work or meet together with others to exchange views regarding their labors. Even the farmer, following the plow from morning until night, manages to meet his neighbors at the store or elsewhere and discusses with them the crop conditions and prospects, and exchange experiences. A lonely worker in any calling is liable to become self-reliant in what he does—too much so for his own good, as well as for the good of those who use his services. If the work is one of the handicrafts in which manual dexterity is the all-important, it does not matter so much. Practice in this makes perfect. But the work of the physician is peculiar in that practice does not make to perfection. His is a progressive work, and if he does not progress he is left behind.

The physician who works alone day after day without associating with his fellows in like work will, in spite of himself, become narrow, get into a rut, and his professional horizon will soon extend only to the narrowed confines of his own narrowed views and medical life. The tendency of his work is to make him morbid; he is convinced that he is doing his work better than others. He is not stimulated with the ambition to progress because he does not know, will not believe, that others are progressing. Nothing will prevent this deplorable condition so well as an occasional attendance at a society meeting where physicians gather to discuss scientific questions that vitally affect them and their work. He who does this will be kept out of the rut; his self-conceit will be modified at least, and a realization of the fact that others know as much as he, will compel him to render that respect which is their due.

The medical society is a postgraduate school at one's door, to which the members can, with the mutual help of each other, continue the education which was simply begun in the medical college; it is an institution that the physician will encourage and utilize if he is ambitious to be in touch with the progress that his profession is making.

We propose later to refer to the subject of the medical society as a scientific and educational body, for the purpose of considering the advisability of adopting methods of conducting the scientific work different from that which now prevails.

Social.—The second object of organization is the promotion of friendly intercourse among physicians. One of the greatest curses of our profession is the existence of petty jealousies that seem to be so prevalent. It will not be well at this time to consider in detail why these jealousies exist, suffice to say that as a general proposition it can be summed up in the word "misunderstanding." That the isolated character of our work is the primary cause there is little doubt. Too often enmity is created between two physicians living in the same neighborhood through the silly tattle of vaporing idlers. Prejudices founded on imaginary insults or wrongs are allowed to grow into deadly animosities. One of the best preventives, as well as the best remedy, is the coming together of the supposed enemies and face to face talk it over. Few of us are as black as our enemies think. A closer acquaintance will reveal lots of good that could not be detected at a distance. An active local medical society is a splendid preventive of local jealousies, especially if a little time be given for sociability and for fraternizing, and if to this be added an occasional luncheon or dinner, the results in this regard will be surprising. Crossing legs under the same table, eating salt from the same salt-cellar, and breaking bread together will banish petty animosities as the noonday sun banishes the mist of the morning. If the medical society had no other value than that of a social club for medical men, it would be worth all it costs.

(To be continued.)

Simplified Technique for Staining the Gonococcus.—Antoni claims that the following technique differentiates the gonococcus in a few minutes with ease and precision: One of the prepared slides is stained with methylene blue for a minute to obtain a general idea of the field. The others are placed in anilin gentian violet for twenty seconds and rinsed at once. They are then dipped for a minute in the iodo-iodid solution, renewing the fluid several times, then drained without rinsing and alcohol is poured on them, a drop at a time, for two or three minutes. After this they are rinsed and stained with safranin for a minute, renewing the liquid once, and are finally copiously rinsed. All bacteria other than the gonococcus stain blue, while the latter has the color of the safranin. The technique was described more fully in *Hygiea* for February, 1901.

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AMERICAN MEDICAL LITERATURE.

The progress that medicine is making in this country is illustrated strikingly by the increasing number of strictly scientific publications of a periodical character as well as by the noteworthy improvement in the reading matter furnished by the weekly and other journals devoted more particularly to the clinical or practical aspects of medicine.

A few years ago the *Journal of Experimental Medicine* began to appear as the first representative of the purely scientific and investigative activities of the laboratories and other institutions doing work of this kind. Upon the title page appeared the names of three associate editors for physiology, but before long the *American Journal of Physiology* was started as the special medium of publication for original investigations in that branch of science. Less than a year ago the *Journal of Medical Research* was founded in response to an urgent demand of the American Association of Pathologists and Bacteriologists for a medium of publication of the papers presented at its meetings. Still more recently the *American Journal of Anatomy* appeared for the purpose of collecting in one place and presenting in a worthy manner the researches of the American investigators in anatomy and allied branches. The material and the style of these publications compare favorably with those of other and older countries. These journals have high standards; there appears to be no lack of proper material to fill their pages; and although they are expensive publications the necessary funds seem to be at hand. Modern scientific medicine in America has certainly profited much and will continue to be greatly advanced by journals of such high character in subjects of fundamental importance. Only by such means is it possible for purely scientific investigation to receive the proper recognition and stimulation, at home as well as abroad.

As regards the periodicals that appeal more directly to the practitioner there undoubtedly has been much advance in the quality of recent years when the greatly increased quantity of material presented is considered. In other words there is a much larger amount of good medical literature of clinical character published in this country now than formerly, and it is not the intention to infer that the best American clinical literature for a long period of time has not been fully abreast with similar kind of literature elsewhere. The increased amount of creditable current literature means that the general medical profession has higher standards for such work. Still the large part of current medical literature of our country devoted to the solution of such questions as "what is good for biliousness, or low fever, or pneumonia," serves to indicate the general trend of medical thought of a fairly large share of our profession, and unfortunately it must serve also as an index of its scientific standard. This sort of literature is even yet far from being extinct, but the increasing quantity of good literature shows the direction in which development is going.

THE WHITENING OF THE HAIR.

Metchnikoff, the great champion of phagocytosis, has begun to study the development of senile atrophy from a biologic standpoint. Because senility so often manifests itself at a time in the life of the individual when the instinct of self-preservation is pronounced, and because the wearing out of the body and spirit is not always accompanied by the feeling of need of repose, Metchnikoff suggests that much of the senility of the present day is abnormal and that it might be possible to discover remedies for it.

In order to make a start in his biologic studies of senility he has recently investigated the mechanism of the whitening of the hair,[1] a phenomenon commonly regarded as the most frequent early sign of approaching senility. In certain of its aspects, at least, the change of color of the hair would seem to be within easy reach of investigation. It has been shown conclusively that old hair may turn gray and white; that white hairs are not necessarily white from the start. Metchnikoff at once asks whether the theory of phagocytosis may not throw some light upon the disappearance of the pigment. He finds that hairs of dogs which are turning white contain pigmented cells with well-marked protoplasmic prolongations. These cells are loaded with pigment which they appear to remove from the hairs, beginning first in the peripheral layer. Hence Metchnikoff terms them "pigmentophages." He believes that they come from the medullary layer of the hair, in other words that they are of epidermal origin. In dogs he has traced the pigmentophage cells into the root of the hair and the neighboring tissue. The same or exactly similar cells are present also in human hair that is losing its pigment. The cells may descend to the root of the hair and enter the adjacent tissue or it is also likely that some of them pass to the surface of the hairs and are lost. Metchnikoff does not believe that the entrance of air into the hairs has anything to do with the whitening, which depends on actual loss of pigment. The mechanism is the same in precocious as in senile canities. How are we to explain the undoubted examples of hair "turning gray or white in a night," that is, very rapidly? Metchnikoff suggests that it is due to exceptionally strong stimulation of pigmentophage cells by violent

1. Ann. de l'Institut Pasteur, 1901, xv, 865-879.

emotions, which we know in some way exercise undoubted influence upon vital functions.

While the mechanism of depigmentation described by Metchnikoff seems to be well worked out he has not yet been able to reach any good explanation of the causes that start it to operate. He suggests that when the hair turns gray during infectious diseases, *e. g.*, typhoid, toxic substances stimulate the pigmentophages into activity. In the case of senile whitening the determining factors seem more obscure and farther removed from our grasp at the present time. Are there any means of hindering the hair from turning gray? The only encouragement that can be given is that the hair and other adnexa of the skin are accessible to chemical and physical agents and that it is possible that such agents may be found which will destroy the pigmentophages and thus stop the destruction of the pigment of our hairs.

PHTHISIOPHOBIA.

THE JOURNAL has always opposed the exaggerated estimates of the dangerous communicability of tuberculosis and especially such panicky legislation or regulations as would needlessly increase the hardships of its victims. What has been foreseen and deprecated has come to pass; the agitation and persistent reiteration of its contagiousness have had their effect in the recent ruling of the Treasury Department excluding consumptives, and such regulations as those just enacted in certain New York towns where to entertain a consumptive guest is made a finable misdemeanor. This phthisiophobia, as it has been designated by Knopf, seems to be spreading, and he relates instances of gross inhumanity due to the abject cowardice that has been so largely induced among the laity by the inconsiderate exaggerations of medical writers, who too often in their zeal have let their words overstate the facts. Consumption is not a virulently contagious or infectious disease and we should correct the popular impression that it is. The most that we can say on respectable authority is that it is a communicable one, that if due precautions are not observed there is a danger of introduction into the organism of tubercle germs. This accident, however, is by no means a fatal one, or, as things have been in the past, few if any of us would have ever had a chance to die of anything else.

Too little is being made of the hereditary element; the possibility of this has largely been lost sight of in the general magnification of the transmission ideas. What the public should be taught is that there is comparatively little peril for one not specially predisposed, in occasional contact with a consumptive, and no grounds whatever for any panicky fear of such contact; that a very large proportion of us have harbored the tubercle bacilli and that they have done us no serious harm; that consumption is on the decrease in this and other countries where sanitation has improved and the standard of living is high, and that light and ventilation are the tubercle germ's deadliest foes and its universally bestowed disinfectant. It is only avoidable neglect that makes the presence of consumptives in any way dangerous to a community, and it is a reflection on our civilization and on our intelligence that such rules are enacted as those reported from Liberty, New York. Their efficiency is, at best, dubious. Nothing short of a universal tuberculin test, more reliable than any now known, could guard against the pervasive tubercle germ. The present tendency to silly panic over the dangers of consumption will, of course, have its brief day; it will die out as it did nearly a century ago in Southern Europe where its uselessness was demonstrated, but in the meantime it has added to the sum of needless human misery.

The medical profession is largely responsible for its existence and should now do all it can to end it, not in neglecting reasonable measures of precaution, but in counteracting the unreasonable apprehensions of the laity which has been unwittingly aroused.

ANGIONEUROTIC EDEMA.

The more or less sudden appearance of edematous swellings in various parts, most frequently in the subcutaneous tissue, in persons with "nervous" tendencies, has led to the establishment of angioneurotic edema. As indicated by the name it is thought that the underlying condition is some form of disturbance in the innervation of the blood vessels. Kohn[1] reports a case and reviews the literature. In Kohn's case the dipping of the hands in hot water brought on the edema; in previous cases the influence of cold in bringing on the circumscribed edematous swellings has been noted. Alcohol, trauma and malaria have also been regarded as of etiologic importance. In not a few cases the disease has manifested a distinct tendency to appear in families, affecting various members and generations of the same family. Associated pathologic conditions are usually not apparent, the swellings being recurrent and transitory. As indicated, they usually involve the subcutaneous tissue, but they may appear in various parts of the body, including important internal organs and the joints.

The exact nature and cause of the neurosis which is held to be the underlying factor can not be stated in definite terms. Reflex irritations in persons with neuropathic tendencies are thought to excite vaso-dilator nerves and thus cause congestion and increased vascular permeability followed by an outpouring of serum. Certainly this statement leaves much to be explained, because it really explains but little. In the first place, what is the actual condition in the many states that we have to be satisfied with designating as neurotic or neuropathic? The answer to this difficult question must needs await a much more satisfactory knowledge of the physics and chemistry of the physiology of nerve action than we now possess. In the next place it should be remembered that it has not been proved that stimulation of the vaso-dilator nerves

1. American Medicine, Dec. 21, 1901.

causes an increased permeability of the vessel walls, plausible as this assumed effect may appear. At all events increased permeability of the vascular wall can not be urged in explanation of the disappearance of the edema, which may be quite as rapid as its appearance.

It would seem as if the transitory accumulations of fluid would be more easily explained as the result of sudden changes in the osmotic equilibrium in the tissues. It is plain that the slightest effort to get at the real nature of phenomena of this kind on the basis of existing knowledge merely result in more or less vague theorizations. The very terms employed serve only to cover our ignorance. The therapy so far, hit upon in the blind gropings of pure empiricism, has proved utterly unavailing.

ETIOLOGY OF CANCER.

The theories of the cause of cancer are multiplying and each one is novel in its way. One of the latest is that of Dr. James Braithwaite,[1] who recognizes that four chief factors enter into cancer production, viz., over-nutrition, non-oxidation of ingested food, local irritations, and excess of salt in the diet. This last he considers the most important and always present, though it requires the coöperation of at least one, and probably two, of the other factors to make it efficient. The suggestion of the importance of salt as a factor came to him from noticing the infrequency of uterine cancer among Jewesses, whose religion excludes salt pork from their diet. Other considerations in favor of this view in his estimation are the absence of HCl in the vomit of gastric cancer; the fact that salt is a most powerful stimulant to all metabolism; the local prevalence of cancer in certain districts and among certain populations where salt is a specially important element in the diet, together with an excess of nitrogenous food, etc. "Cancer houses are," he says, "probably merely houses where there is accommodation to keep a pig and where the diet consists of a good deal of bacon; or where a good deal of butcher's meat is consumed, and with it, of course, salt; or where the inhabitants are old, but their appetites are still good; or when they are women and live well, but lead indoor lives so that the food is not well oxidized." He believes that with the increase of cancer reported of late years it will be found that there has also been a great increase in the consumption of salt. It will be seen that his theory is largely based on assumptions, but the same is true of many others so that it is perhaps not the less entitled to a respectful reception. It will aid in the stimulation of medical thought on the subject and it may be with this multiplication of views and their discussion and rejection we will by a process of exclusion narrow the field of research and come nearer to the truth. In this way each suggestion like the above has its value.

KOCH'S CHANGE OF VIEWS.

One of Pasteur's principles was never to state or publish as a definite scientific fact any proposition not absolutely proven. Such a principle is worthy of adoption by all, but especially by those who assume to be, or are recognized as, authorities on some particular subject. In his address before the London Congress on Tuberculosis, Prof. Koch took exactly opposite views as regards transmissibility of bovine tuberculosis to man from what he was supposed to have held previously. This supposition he claimed was not true and said: "Even in my first circumstantial publication on the etiology of tuberculosis I expressed myself regarding the identity of human tuberculosis and bovine tuberculosis with reserve. Proved facts, which would have enabled me to sharply distinguish these two forms of the disease, were not then at my disposal, but sure proofs of their absolute identity were equally undiscoverable, and I therefore had to leave this question undecided."[1] Dr. Alfred Hillier in the *British Medical Journal*[2] calls attention to the conflict of this statement with one made in Koch's original essay which, as Hillier says, will forever rank as a classic in the history of science. The following extract from that essay is quoted to show that at the time it was written Koch held decided views on this now vexed question:

> But the perfect identity and unity of the tuberculous process in different kinds of animals *can not be doubted* when attention is diverted from the macroscopic condition of tuberculous organs and from the secondary changes in them, as caseation and calcification, to the primary structure of tubercle, which, as we have already seen, recurs with typical regularity in all the different processes in man, and such is the case also in the apparently widely different forms of tuberculosis *in the various species of animals.*

In another portion of his original essay Koch says: "It is certain that the milk of tuberculous animals may give rise to infection." Hillier, commenting on these quotations, says that the original views are "unreservedly" and "decidedly" in conflict with those expressed in London last July, and so it would seem to the casual observer.

THE JARGON OF EDDYISM ET ID GENUS OMNE.

An imaginative English writer, in his latest publication, which is a sort of tentative prophecy of what society and the rest of the world are coming to in future years, suggests the possibility that a refined and scented Obeah worship will be in vogue in fashionable society and imagines a witch dance and doctor with feathers and all, as a feature of a future social function in Park Lane. With modern Eddyism in existence and thriving on both sides of the Atlantic the suggestion is not so wild as it seems and may be nearer fulfilment than many of his other vaticinations. We ought to be able to count on the counteracting influence of our profession to some extent, but human nature is a peculiar thing and facts sometimes play strange tricks. For example, it is a curious thing to see a physician—an emeritus professor of Columbia University—posing as a Svengali and claiming to have inspired an actress to achievements far beyond her unaided ability so that under his hypnotic guidance she became an actual Trilby in real life. If the newspapers correctly report him, he believes that he gives out a "spiritual energy" which "materializes" in the activities of the subject. Mind communicates with mind independently of the senses, and this is not confined to man, but occurs also in the lower animals.

1. London Lancet, December 7, 1901.

1. JOURNAL A. M. A., July 27, 1901, p. 261.
2. Dec. 21, 1901, p. 1843.

As an instance of this is cited the recent appearance of cougars and lynxes in Austin Corbin's game preserves in New Hampshire. The deer and elk there somehow managed to communicate the fact of their presence (and desire to be eaten) to these carnivorous cats who had for a century been unknown in that region. The doctor also speaks of "intervening intelligences," "hostile influences," etc., and in short uses much of the jargon of the ghost-raisers that have thrived on the credulity of the public for all time past. We need not credit him with dishonesty in the matter, but as a presumably scientifically educated physician he is a sort of phenomenon. Eddyism is only a sort of "refined and scented" voodooism, and these claims of giving out "energy" and influencing subjects for good or bad are little better.

APPENDICITIS AND INFECTIOUS DISEASES.

The pre-eminently local character of appendicitis and its successful surgical treatment have undoubtedly served to distract the attention from its possible relations to infectious diseases in general. In the large majority of the cases local conditions appear to explain satisfactorily the development of appendicitis and its consequences, but there are also forms of appendicitis in which the etiology is not quite so simple, and it is to these forms that Finney and Hamburger[1] direct attention. "Propagated appendicitis" is the term applied by M. Reclus to appendicitis developing from extension of enterocolitis. The nature of the appendix favors stagnation and increased bacterial virulence, which result in greater intensity of the resulting lesions of this part of the intestine. Then there are cases in which appendicitis seems to be a "local expression of a general infection." Finney and Hamburger cite three cases associated with rheumatic polyarthritis, and they also refer to similar observations by previous writers not only in the case of rheumatic polyarthritis but also in other infectious diseases, such as measles, typhoid fever, scarlet fever, influenza, etc. Experiments by Adrian and others indicate that the lymphoid tissues of the appendix favor the arrest and growth of bacteria circulating in the blood, because the lesions become manifest here earlier than elsewhere in the intestines. Attention is also called to the apparent relation between influenza and appendicitis, and Adrian has demonstrated the presence of the bacillus of influenza in appendicitis developing in the course of influenza, indicating that the latter disease may stand in direct causal relation to appendicitis. The probable "rheumatic nature" of some cases of appendicitis associated with joint affections is strengthened when one considers the analogy between the tonsils and the appendix, especially in their richness of lymphoid tissue. Bland Sutton has called the appendix "the abdominal tonsil," and as there is a rheumatic tonsillitis why should there not also be a rheumatic appendicitis, using the word rheumatic in its ordinary broad sense. Finney and Hamburger are not willing that these suggestions as to the probable nature of some cases of appendicitis in any way should modify the present views as to its treatment. The peculiar local conditions of the appendix render all inflammations of this little blind tube liable to extension to the general peritoneum, a menace that by most surgeons and physicians is considered as adequately removed only by surgical treatment.

1. American Medicine, Dec. 14, 1901.

THE SURGICAL TREATMENT OF TUBERCULOSIS OF THE PERITONEUM.

In these days we are accustomed to hear much about the great achievements and the astounding progress made by surgery. Cavity after cavity and region after region have been invaded by the bold surgeon, secure by means of his admirable asepsis from doing direct and immediate harm, until it would seem as if the field of internal medicine was rapidly narrowing to the making of diagnosis and the treatment of general diseases. In this rapid expansion of surgery, to use this phrase, no one will deny that there is much actual and permanent progress. It seems to be true, however, that in some instances surgery in its extraordinarily rapid advancement has entered territories which it may be forced to abandon again after a relatively brief period of occupation. The pendulum has been carried too far and the backward movement may be noticeable at least in certain phases of surgical activity. The surgical treatment of tuberculous peritonitis might be cited as a good illustration of the point at issue. In his recent review of the treatment of peritoneal tuberculosis, Fenger,[1] after having carefully reviewed the subject in the light of recent experience that has accumulated from various sources, states: "After having ploughed through this chaos, out of which it is next to impossible to extricate a ray of light, because reasoning is at a standstill despite the enormous labor of a multitude of able and indefatigable workers in all countries, one can not but feel inclined to look for a new departure. It is refreshing at last to find an author (Borchgrevink) who, after the most careful and painstaking labor with all the weapons of modern scientific investigation at his disposal, has the courage to tear down this whole artificial house of cards and make *tabula vasa* of the whole question." Borchgrevink has made a most careful analysis of two almost equal series of cases of peritoneal tuberculosis, one treated by laparotomy (22 cases), and one (18 cases) treated without laparotomy. Without going into details, suffice it to say that the forms of peritoneal tuberculosis without fever or with only slight fever usually run a favorable course and laparotomy is unnecessary, while in progressive tuberculosis most of the patients die from the disease sooner or later, and therefore laparotomy has no influence upon them. As Fenger puts it, nature cures tuberculosis of the peritoneum better than the surgeon. Borchgrevink states that even the "serous tuberculous peritonitis is a territory which surgery must hand back to the internal medicine clinic with thanks for the splendid opportunity which a misunderstanding gave to the profession, by means of laparotomy, to study tuberculosis in one of the large cavities of the body." When able and careful surgeons reach conclusions such as these we may begin to look for a period of greater conservatism in the treatment of peritoneal tuberculosis.

1. Annals of Surgery, 1901, xxxiv, 771-785.

Medical News.

CALIFORNIA.

Smallpox.—The disease is epidemic at Randsburg, where there are about 45 cases.——Stockton has several cases.——At Los Angeles two new cases have occurred.

Los Angeles Mortality.—The death rate for Los Angeles in 1091 was 16.58 per 1000. The total number of deaths was 1927, 1168 being males and 759 females. Consumption caused 348 deaths, 298 of the deceased were not natives of California, and of these 255 had lived less than ten years in the state.

New Pasadena Hospital.—The new hospital, which has been given to Pasadena by a number of philanthropists, was formally opened January 5. The ceremonies partook of the nature of a donation party, and about $1400 in cash and quantities of supplies were presented by friends of the institution.

Personal.—Dr. Henry T. Woodward returned to San Diego, December 23, after a residence of three years in Europe.——Dr. Hugh S. Cummings, U. S. M.-H. Service, has succeeded Dr. Duncan A. Carmichael in command of the Angel Island Quarantine.——Col. Robert M. O'Reilly succeeded Col. Charles R. Greenleaf as chief surgeon of the Department of California, January 1.

Doctor Convicted.—It is announced in the *Detroit Free Press* in a special dispatch from La Porte, Ind., that Dr. Amos J. Landis, "who recently went from Adamsville, Mich., to Chico, Cal., has been convicted of forgery and a sentence of seven years in the penitentiary has been imposed. Dr. Landis treated a wealthy bachelor, who left him $20,000 by executing a note for that amount on his deathbed. The bequest was contested in the courts by the relatives of the dead man and experts for the prosecution claim the note was forged by the physician. The friends of Dr. Landis believe him innocent and a defense fund is being raised by Michigan and Indiana physicians to enable Dr. Landis to carry his case to the higher courts. The man Dr. Landis treated had been abandoned by his relatives despite the fact that he was possessed of a large fortune."

DISTRICT OF COLUMBIA.

Health of the District.—The report of the Health Officer for the week ended January 11 shows the total number of deaths to have been 108, of which number 62 were white and 46 colored. The total number of births was 108 at the close of the week. Forty-two cases of scarlet fever and 34 cases of diphtheria were under treatment.

Health of Working Girls.—The Senate adopted a resolution directing the Committee on the District of Columbia to determine whether the law adopted March, 1895, providing that all persons employing female help in stores, shops or manufactures in the District of Columbia shall provide seats for them when not actually engaged, is being carried out, and if it finds that it is not, to ascertain why its enforcement is neglected. The Committee will report to the Senate at an early date.

Medical Bills in Congress.—The following bills have been introduced in Congress and are being considered by the Committee of the American Medical Association on National Legislation, consisting of Drs. H. L. E. Johnson, Washington, D. C.; William H. Welch, Baltimore, and W. L. Rodman, Philadelphia:

H. R. Bill 1952, by Mr. Hay, to define the duties of the Medical Department of the Army of the United States:

Be it enacted, etc.,

That the duties of the Medical Department of the Army of the United States shall be as follows:

1. The direction of measures for the prevention of the ingress of disease among the troops of the Army and of sanitary faults in location and construction of posts and camps.

2. The medical and surgical care of diseased and injured officers and soldiers of the Army of the United States; the physical examination of all officers and soldiers entering or leaving the Army of the United States.

3. The care of and accountability for all transportation pertaining to the movement of men and supplies of the Medical Department and of the sick and injured of the Army.

4. The preparation and preservation of the records of transactions taking place under the three preceding paragraphs.

5. It shall be the duty of the senior medical officer of the army corps, division or brigade, territorial division or department, in which an unusual outbreak of disease shall have arisen to at once take steps to investigate and determine the reasons therefor.

Should this investigation show any carelessness or inattention to duty, either upon the part of the medical officer or of the officer in command at the infected point, he shall at once make a report to the general officer in command of the facts, whose duty it shall then become to bring the offending officer or officers before a court-martial for such punishment as, upon conviction, the court may deem proper and the reviewing authority concur in.

6. The Medical Department shall also perform such other duties as the President or the Secretary of War may deem for the best interest of the Army.

7. The Secretary of War is hereby authorized and directed to prepare suitable regulations for the enforcement of the provisions of this act.

All acts and parts of acts in conflict with the above are hereby repealed.

H. R. Bill 7198, by Mr. Hepburn: To increase the efficiency and change the name of United States Marine-Hospital Service. (This bill previously printed in THE JOURNAL.)

H. R. Bill 7650, by Mr. Kern: To reëstablish the Army Canteen.

H. R. Bill 7931, by Mr. Jenkins: For the promotion of Anatomical Science, and to prevent the desecration of graves in the District of Columbia.

H. R. Bill 8189, by Mr. Miller: In relation to Pharmacy in the Indian Territory.

H. R. Bill 8194, by Mr. Bull: To equalize the pay of officers of the line, Medical Corps, Pay and Chaplain Corps of the Navy with officers of corresponding rank in the Army and Marine Corps.

Senate Bill 189, Mr. Gallinger: For the further prevention of cruelty to animals in the District of Columbia. (The revived Anti-vivisection Bill.)

Senate Bill 2172, by Mr. Proctor: To provide for the payment of medical expenses of sick officers and enlisted men of the Army while absent from duty with leave or on furlough.

Senate Bill 2420, by Mr. Hansbrough: For the relief of assistant surgeons in the Volunteer Army of the United States.

Senate Bill 2519, Mr. Pettus: To add dental surgeons to the Medical Corps of the Navy.

GEORGIA.

Isolation Hospital Needed.—Dr. Benjamin W. Bizzell, Atlanta, a member of the Board of Health, is making a determined effort to secure an appropriation of $5000 for the construction of a contagious disease hospital, the need for which is urgent, as there is no place in the city where patients suffering from communicable diseases can be received and treated.

Personal.—Dr. Floyd W. McRae, Atlanta, who has been suffering from blood poisoning, is improving.——Dr. Henry H. Harmon, Dawson, and H. W. Harris, Shellman, have exchanged locations.——Dr. J. W. Lee Brannon, Valdosta, has located in Atlanta, and Dr. D. Q. Dallas, Taliokas, succeeds him.——Dr. Isham H. Goss, Athens, has been appointed a member of the State Board of Medical Examiners.

Decision Against Private Sanatoriums.—In the habeas corpus proceedings in the United States District Court at Macon it has been decided that the section of the Georgia law permitting private sanatoriums to receive patients and hold them at the will of the proprietor, without the consent of the patient, is in violation of the fourteenth amendment, United States constitution, and therefore null and void.

ILLINOIS.

Hospital Site Bought.—The Kewanee Hospital Association has purchased a tract of land 175 by 150 feet, for $2500, on which to erect a hospital.

Staff Elects Officers.—At the annual meeting of the staff of St. Mary's Hospital, Quincy, Dr. Grant Irwin was elected president; Dr. John D. Justice, vice-president; Dr. William H. Baker, secretary, and Dr. John A. Koch, treasurer.

St. Joseph's Hospital, Joliet, reports that in 1901, 901 patients were treated at the hospital, of whom 57 died. Of these, however, 21 were moribund when brought to the hospital. The Sisters also cared for 252 patients in private families during the year, making a total of 1153. Dr. A. J. Lennon has been added to the medical staff.

Personal.—Dr. Henry Richings, Rockford, has been appointed a member of the State Board of Health.——Dr. W. C. Phipps has located in St. Augustine.——Dr. William Friend, Lancaster, has located in Sumner.——Dr. Clarence A. Wells retired from the position of assistant surgeon at the Soldiers' Home Hospital, Quincy, December 31.——Dr. William A. Gray, Milledgeville, has located in Freeport.——Dr. Justin C. Simpkins, Danville, has moved to Granville, N. Dak.——Dr. George A. Zeller, Peoria, recently appointed superintendent of the State Hospital for the Incurable Insane, near Peoria, is on his way from the Philippines to his post of duty.

Chicago.

Visiting Nurses.—The Visiting Nurses' Association, at its annual meeting, reported a most successful year. Nurses were provided without charge in 5915 cases, and 37,756 visits were made.

The Chicago Policlinic and Hospital has purchased the southeast corner of LaSalle Avenue and Oak Street. The plat of land has a frontage of 150 feet on LaSalle Avenue and 120 feet on Oak Street.

Woman's Medical College Sold.—The Northwestern University Woman's Medical School building has been sold to the

Chicago Eclectic Medical College and the Valparaiso, Ind., Normal School, for $40,000.

The **Chicago Lying-in Hospital Dispensary** finished last week 2000 consecutive confinement cases without a maternal death. In 3763 consecutive labor cases, under the exclusive care of the dispensary, two died, both from spontaneous rupture of the uterus. In all these cases there were only 8 septic fever cases that were at all sick. In two the uterus was cleaned out, in none was any other local treatment instituted. The number of directors has been decreased from eleven to nine.

The **Week's Mortality.**—For the week ended January 11, the mortality per 1000 was at the annual rate of 14.78; for the corresponding week of 1901, the figures were 16.34. The Department of Health reports a reduction of 67 per cent. in the deaths of those more than 60 years of age as compared with the same week of last year. The deaths from pneumonia and influenza show a marked comparative decrease, the respective proportions being 89 to 161 and 4 to 18. The department denies the report now current that erysipelas is raging in the city. In the last two weeks there have been only four deaths from the disease.

INDIANA.

State **Medical Board.**—At its meeting December 10, the Board refused recognition to the Curtis Physio-Medical Institute, Marion, revoked the license of Harry S. Kiskadden, Huntington, and continued the case of J. P. Shepherd, Judson, charged with falsely obtaining a certificate of license from the Board and selling it to Albert E. Kirk, a veterinarian.

Indianapolis Coroner's Year.—During the year, Coroner Dr. Alembert W. Brayton reports that he investigated 309 deaths, 226 males and 83 females. Of these 35 were railroad cases. Suicide caused 29 deaths, of which 8 were from morphin; 3, carbolic acid; 1, cocain; 3, arsenic; 4, gunshot wounds; 4, hanging; 2, drowning; 1, chloroform, and 1, asphyxiation by gas.

Personal.—Dr. Davis W. Tucker, Boonville, has moved to Fort Wayne.——Dr. J. J. Graham, Daleville, has located three miles south of Paoli.——Dr. Frederick W. Denke-Walter, Spencer, has sold his sanatorium and moved to McCormick's Creek.——Dr. Frank Broughton, Waterloo, has been appointed local surgeon of the Lake Shore road.——Dr. Royal H. Hardman, Converse, has located in South Bend.——Dr. James Lewis, senior interne at the Indianapolis City Hospital, has resigned and will practice in the city.

IOWA.

To Increase Fees.—Sioux City physicians of both schools to the number of about 90 have agreed to advance professional fees. It is proposed to raise the fee for a visit from $1.50 to $2.

Smallpox.—Bagley fears an epidemic. Dr. M. C. Hess reports that the disease has appeared in two families and that many have been exposed. Dr. J. A. Pringle reported 3 cases last week, and several families are under quarantine.

Personal.—Dr. Wilton W. McCarthy, Des Moines, has been appointed surgeon-general of Iowa, in place of Dr. J. Taggert Priestley.——Dr. William B. Small, Waterloo, has moved to Castalia.——Dr. Norman S. Craig, Manchester, has gone to Jennings, Fla., for the winter.——Dr. Herbert W. Linder, Stratford, has moved to Nevada.——Dr. P. Sherlock, Martinsburg, has purchased property near La Plata, Mo., and will move there in March.——Dr. Henry E. Douglass, Independence, has located in Jesup.——Dr. Elmer E. Bamford, Allerton, has moved to Centerville.——Dr. Frank F. Winsell, Drakesville, has located in Bloomfield.——Dr. Gysbert P. Van Marel, Oto, has opened an office in Pella.——Dr. Oren T. Wertz, Dixon, has moved to Morley.——Dr. A. R. Rogers, Minburn, has purchased the property of Dr. John B. Conly, Woodward, and will practice there.——Dr. A. John Droz, West Chester, will locate in Keota, this month.

MARYLAND.

Baltimore's Mortality.—The mortality for the week ending January 11, was 205; white 167, colored 38. Pneumonia caused 26 deaths, consumption 17 and cancer 7.

Registration of Pharmacists.—A bill for the registration of all pharmacists in the state has been introduced in the Maryland Legislature. It is identical with the bill of 1900, with a few exceptions. One change is in allowing ordinary stores to sell drugs and medicines, but not to put up prescriptions. This is a concession to the wholesale trade, which it is said is now a unit for the bill.

Personal.—Dr. James M. Spear has been appointed physician to the Allegheny County almshouse and jail and secretary of the County Board of Health.——Dr. William F. Twigg has been appointed physician to the insane asylum.——Assistant Surgeon F. C. McDonnald, U. S. Navy, has relieved Assistant Surgeon A. M. Fauntleroy at the United States Naval Academy, Annapolis, the latter being ordered to the Naval Hospital at Norfolk, Va.

Insane Hospital Report.—At the close of the last fiscal year of the Springfield Hospital for the Insane there were 330 inmates; 234 males and 962 females. During the year 22 died, 14 were discharged recovered, 8 discharged improved, and 3 discharged unimproved. Dr. J. C. Clarke says no general feature of treatment is more important than properly selected work. The patients do a large amount of outdoor work, and among them are carpenters, painters, stonemasons, bricklayers, tailors, shoemakers, etc., who work at their trades daily and seem much happier in pursuing their accustomed avocations than in sitting idly in the wards.

Interesting Papers Before Societies.—Several interesting papers have been brought before the societies here in the past week. Dr. Simon Flexner described his new researches on snake venom, undertaken on the suggestion of Dr. S. Weir Mitchell. He used the venom of the rattlesnake, copperhead and cobra, and finds it to be a complex virus, the two main elements acting on the red blood corpuscles and nerve cells. Dr. William Osler spoke of the cerebral symptoms (coma) associated with latent carcinoma of the stomach. Dr. Charles P. Emerson spoke of digestive processes in carcinoma of the stomach and endeavored to prove that the absence of free hydrochloric acid is brought about by some element or elements in the growth "binding" it or using it up. Dr. John Ruhräh exhibited a meningocele removed from the occiput of an infant aged 17 months. Its size can be judged by the fact that it contained 1½ gallons of fluid. This is the largest meningocele ever reported. The child died in four days. Dr. C. W. Burr, Philadelphia, urged the importance of preparing patients for operations in order to avoid subsequent shock and neurasthenia. This applies to chronic surgical cases, and especially in gynecological practice. Dr. Harvey W. Cushing reported the recent researches of Professor Shearington, of Liverpool, in cerebral localization.

MICHIGAN.

Comparative Prevalence of Disease.—For the month of December, compared with the preceding month, pleuritis, pneumonia, scarlet fever, inflammation of kidney, smallpox, erysipelas, inflammation of bowels and cerebrospinal meningitis were more prevalent; and intermittent fever, remittent fever, whooping cough and diphtheria were less prevalent. For the same month compared with the average for December in the ten years, 1891-1900, scarlet fever, smallpox, measles and cerebrospinal meningitis were more than usually prevalent; and consumption, intermittent fever, erysipelas, remittent fever and diphtheria were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Including reports by regular observers and others, cerebrospinal meningitis was reported during December, at 6 places; whooping cough, 32 places; measles, 39 places; diphtheria, 85 places; typhoid fever, 109 places; smallpox, 141 places; scarlet fever, 184 places, and consumption, 204 places. Reports from all sources show cerebrospinal meningitis reported at 5 places more; whooping cough, 1 place less; measles, 12 places more; diphtheria, 11 places less; typhoid fever, 57 places less; smallpox, 49 places more; scarlet fever, 2 places more, and consumption, 6 places more, in December than in the preceding month.

Mortality in Michigan During December.—The month of December was a record-breaker as regards prompt reports from local registrars to the secretary of state, over 99.74 per cent. of the population being promptly reported. This is the best record ever made in this country from a state area. There were 2770 deaths returned, corresponding to a death rate of 13.5 per 100,000 population. This number is an increase of 316 over the previous month, but is only 95 more than the number returned for December, 1900. Important causes of deaths were as follows: Pneumonia, 330; influenza, 43; pulmonary tuberculosis, 151; cancer, 126; other forms of tuberculosis, 18; typhoid fever, 53; diphtheria and croup, 54; scarlet fever, 39; measles, 14; whooping cough, 13; accidents and violence, 157.

There was considerable increase in the death-rate from typhoid fever, and slight amounts of increase from scarlet fever, measles and whooping cough. Pneumonia and influenza showed a marked increase, as is usual at this season. There were 3 deaths from smallpox during the month, one in Delta and two in Isabella County.

MISSOURI.

Lifts Sanatorium Debt.—Mr. A. D. Brown has fulfilled his promise made several months ago to give the Missouri Baptist Sanatorium, St. Louis, $50,000, provided $25,000 were raised outside. This has been done and the sanatorium in consequence is free from debt and has a handsome surplus.

The St. Louis Medical Society bids fair to outdo all previous records during the coming year. At the January election there were over 120 votes cast, and the new officers seem determined to make this year notable for scientific work. Dr. Carson, the new president, will have hearty support.

State Hospital Appointments.—At the State Lunatic Asylum No. 1, Fulton, the following appointments have been made: Dr. James W. Smith, Pleasant Hill, superintendent; Drs. William M. Bayliss, Clarence; J. Frank Harrison, Martinsburg, and Zachary T. Martin, Lathrop, assistants.

The Medical Director of the World's Fair has not yet been chosen, but the consensus of opinion is that Dr. Leonidas H. Laidley, professor of gynecology in the Marion-Sims college, will be the man—in fact there is no other candidate. Dr. Luther P. Walbridge will probably be the first assistant.

Alumni Societies of St. Louis.—The several alumni medical societies are showing good attendance and excellent work. At the University a symposium is given at each meeting on a selected topic, which plan is followed to some extent by the City Hospital Society. The Academy of Medicine has removed to Jefferson Hall on Grand Avenue.

Fire at St. Francis' Hospital.—On the night after Christmas, with the mercury at —13 degrees, a fire started in the basement of St. Francis' hospital, Maryville, which threatened to destroy the whole building. After the removal of 13 patients, and five hours' heroic work on the part of firemen and citizens, the fire was extinguished, the loss being about $2000.

Hospital Saturday and Sunday.—During the year the Hospital Saturday and Sunday Association, St. Louis, has received $24,796.82, an increase of $6112.86 over the amount received in 1900. The following allotments were made at the annual meeting: Evangelical Deaconess Hospital, $486.92; Good Samaritan Hospital, $1661; Martha Parsons Hospital, $2441.45; St. Louis Children's Hospital, $5736.19; St. Louis Mullanphy Hospital, $1904.46; St. Luke's Hospital, $1544.86; St. Mary's Infirmary, $4712.22, and St. Louis Protestant Hospital, $300.35.

St. Louis Personals.—Several St. Louis physicians have been unfortunate recently in having been sick or injured, but all are rapidly recovering.——Dr. Robert M. Ross was successfully operated upon for appendicitis.——Dr. W. H. Stauffer has made a good recovery from fractured patella.——Dr. Frank Glasgow, who has been dangerously ill from blood poisoning, is better.——Dr. Greenfield Sluder, who was injured by a transit car, is convalescent.——Dr. John B. Johnson, one of the grand old men of the profession, recently celebrated his golden wedding anniversary. A man of wide acquaintance and large experience, his name has long been a synonym for all that is good and noble among St. Louis physicians.

NEW YORK.

Regulation of Bath-Houses.—Mr. Pendry has introduced a bill in the legislature amending the public health law by forbidding the establishment of public bath-houses at a point within 1000 feet of any sewer connection and compelling the owners or lessees to provide separate toilet rooms, which must be kept clean and disinfected.

To Legalize Osteopathy.—On January 7, Senator Brackett, of Saratoga County, introduced a bill to legalize the practice of osteopathy. The bill not only legalizes the practice of osteopathy, but provides for the appointment of a State Board of Examiners to pass on the qualifications of all who desire to practice in the new school.

Tuberculous Cows Discovered.—It is reported that the Commissioner of Agriculture has discovered a herd of tuberculous cattle near Peekskill, belonging to a dairy which regularly shipped its products to New York City. The present owner of the dairy evidently is an amateur, for in the six months of his ownership he has lost nearly 50 out of a herd of 108 cows, and the carcasses of the animals have been strewn about the farm.

Buffalo.

Staff Re-elected.—The officers of the medical staff of the German Hospital were unanimously chosen for a second term at the annual meeting of the staff held January 9.

Sisters' Hospital Staff.—The medical and surgical staff of the Sisters' Hospital held its annual meeting and elected officers for the ensuing year as follows: Dr. Henry C. Buswell, president; Dr. Walter D. Greene, vice-president; Dr. Max Keiser, secretary, and Drs. Edward J. Myer, James J. Mooney and Charles S. Jewitt, executive committee.

Emergency Hospital Open.—The new Emergency Hospital has opened for the reception of patients, and the following hospital staff has been appointed: Medicine—Drs. John H. Pryor and L. Bradley Dorr; surgery—Drs. Clayton M. Daniels, Vertner Kenerson and Francis J. Carr; ophthalmology—Drs. Homer J. Grant and Benjamin H. Grove; laryngology, rhinology and otology—Drs. W. Scott Rinner and Edgar A. Forsyth; dermatology—Dr. Ernest Wende; genito-urinary diseases—Drs. James A. Gardner and N. W. Wilson; nervous diseases—Dr. William C. Krauss, and internes—Drs. C. W. Southworth, J. H. Dewees and G. McKay Holt.

Personal.—Dr. H. R. Gaylord, director of the New York State Cancer Laboratory at Buffalo, has been elected a foreign member of the German Cancer Investigation Committee, of which Prof. Von Leyden, of Berlin, is chairman.—Drs. Edward L. Frost and Jacob M. Krauss were elected postmortem examiners by the Board of Supervisors.—The Board also elected Dr. John S. Howland physician to the penitentiary, and Dr. Frank Bruso physician at the jail.—Dr. DeLancy Rochester has resigned from the attending staff of the Sisters' Hospital, and Dr. Emil S. Tobie has been appointed to the medical service.—Dr. George F. Cott has resigned his position as district city physician, after twelve years' service. The position is under the civil service, and Drs. Norman L. Burnham, Ernest L. Ruffner and Keyes, the latter a woman, are on the eligible list.

New York City.

Ward Quarantined.—The male medical ward of the Roosevelt Hospital, containing 30 patients, will be kept under quarantine for three weeks because one of the patients in the ward was discovered to be suffering from smallpox.

Ambulance Surgeons Commended.—So often does the hospital ambulance surgeon come in for abuse in the daily press that it is encouraging to note that, in the recent deplorable railroad wreck in this city in the tunnel, the ambulance surgeons of the various hospitals were highly commended for their very efficient, and almost heroic, efforts in the work of rescue.

New Hospital Opened.—The New York Infant Asylum formally opened its new hospital building January 11. The building adjoins the old hospital at 61st Street and Amsterdam Avenue, and the two together will now be able to care for 250 patients. The occasion brought together a number of people prominent in society and identified with charitable work, and addresses were delivered by several well-known gentlemen, including Dr. Stephen Smith, one of the original incorporators.

Superintendent and Chaplain Dies.—Rev. Thomas G. Wall, well known to those who have had much to do with the Presbyterian Hospital for the past quarter of a century, fell dead while walking through one of the hospital wards. He was 79 years of age and had been very feeble for some months. At one time he was superintendent of the hospital, but of late years he held the position of chaplain. It is thought that his sudden death was caused by the excitement incident to his being called upon to officiate at the wedding of a man who was very sick in the hospital.

Medical Defense Plan Praised.—The recent newspaper account of the plan by which the New York County Medical Association proposes to defend its members against "blackmailing schemes and the efforts of pettifogging lawyers to work up malpractice cases among ignorant and dishonest persons," has caught the eye of some companions in misery in the business world, and has drawn from them words of commendation and encouragement. This was well shown by a communication sent to that Association by the Guardian Savings and Loan Company of New York City. The letter states that those who are engaged in managing institutions, of the class coming within the sphere of action of this company, hail with pleasure this attempt of the medical profession of this city to rid itself of the legal persecutions which have too often been carried on in the name of justice. These institutions, it would seem, are picked out, even as physicians are, as good objects for the schemes of designing and unprincipled persons, and hence the

company already mentioned, speaking from sad experience in such matters, expresses the hope that this important movement will extend throughout the state and country, and wishes godspeed to the New York County Medical Association as the pioneers in this effort.

PENNSYLVANIA.

Philadelphia.

Alumni of the Jefferson Medical College will confer a favor on the editors of *The Jeffersonian* by sending the names and present addresses of the officers of their respective graduating classes to *The Jeffersonian*, care of the Jefferson Medical College, Philadelphia.

Private Contagious Disease Hospital.—Philadelphia is in great need of a hospital where private patients may be treated for contagious diseases. A number of public-spirited persons, including many women, have been working to the end that such a hospital may be built. It is proposed to name it the "McKinley Memorial Hospital."

Vita-Physician Indicted.—Victor B. Hall, who calls himself a "vita-physician," at a hearing before a magistrate was bound over to court in $800 bail. Hall has no license to practice medicine, but had recently attended a woman who died; he was unable to give a death certificate because of lack of legal qualification, and the case was investigated by the coroner at that time.

Mortality and Morbidity.—The mortality report for the week ended January 11 shows the number of deaths, from all causes, to be 471. Of these, 42 were from contagious diseases, 15 from smallpox; 131 new cases of smallpox were reported for the week. This is the greatest number occurring within any week since the outbreak of the disease. The epidemic does not, however, approach that of 1871 and 1872, when within the two years there were 16,000 cases and more than 3500 deaths. For nearly two weeks, no new cases have developed in the almshouse. The systematic canvass of the city by a corps of special vaccine physicians is almost completed.

Award of Gross Prize.—The Philadelphia Academy of Surgery, as Trustees of the Samuel D. Gross prize of $1000, for original research in Surgery, have awarded this prize, after six years' interval, to Dr. Robert H. M. Dawbarn, of New York City. The treatise which won the competition was entitled "The Treatment of Certain Malignant Growths by Excision of Both External Carotids." Upon this topic Dr. Dawbarn has worked, as opportunity served, for seven years. The essay when published will contain the histories with pathologist's report in each instance confirming the diagnosis of malignancy and specifying its variety, of forty carotid extirpations by the author himself; and as many additional by about a dozen other surgeons. At least two of these are members of the Philadelphia Academy of Surgery. By the terms of Dr. Gross' bequest, the prize-essay must be published in book form, and a copy thereof deposited in the Samuel D. Gross Library of the Philadelphia Academy of Surgery.

CANADA.

Obituary.—Dr. Fortier, physician of St. Vincent de Paul Penitentiary, province of Quebec, died on the 10th inst., at the age of 69 years.

Smallpox at Ottawa.—Since the commencement of the present outbreak of smallpox at Ottawa there have been reported to the Medical Officer of Health, 208 cases. There are at present 72 cases there.

Trouble in a Hospital.—The Medical Board of the General Hospital, Kingston, Ont., has requested the resignation of Dr. Grimshaw, one of the house surgeons. Dr. Grimshaw, who has refused to resign, will seek the aid of the courts if he is dismissed.

Victorian Order of Nurses.—At the Executive Council meeting of the above Order held at Ottawa on January 9, it was reported that the total receipts to date for the Cottage Hospital's Fund was $23,000 and the expenditure had been about $15,000. The general central fund now amounts to $11,000.

Ontario Board of Health.—The regular quarterly meeting of this Board of Health was held during the past week in Toronto. Dr. Bryce, the secretary, reported that since the outbreak of smallpox a year ago there have been 1900 cases of which 750 were in the unorganized districts of Ontario. There have been but twelve deaths, a mortality of only two-thirds of 1 per cent.

Appointment.—Dr. A. T. Hobbs, late assistant surgeon of the London Asylum for the Insane, has been appointed superintendent of the "Homewood Retreat," a private hospital at Guelph for victims of dipsomania and morphinism. Dr. Hobbs is well known for his gynecologic surgery on the female insane while interne at the London Asylum.

New Asylum Opened in Ontario.—On January 4, the new Asylum for Insane, for female patients alone, was opened at Coburg, Ont., the old buildings of Victoria University having been remodeled for the purpose. This Asylum will have accommodation for 150 patients. Dr. McNichol of Coburg will be the superintendent and he will have associated with him as assistant a female physician, Dr. Cockburn of Toronto.

Ontario Medical Defense Association.—A number of practitioners throughout the province of Ontario waited on the Premier last week to request that legislation be introduced at the present session of the Ontario House of Assembly which will make the medical profession in this province self-governing by eliminating from the Medical Council of the College of Physicians and Surgeons the appointed and homeopathic elements. The matter will be considered by the Government.

Consumption Sanitarium for Calgary, N. W. T.—The City Council of Calgary recently passed a resolution, copies of which have been sent to Ottawa, protesting against the increased number of consumptives who are sent to the western city on account of the fine climate of that district. Practically all of these come from Ontario and other provinces in the east; and the resolution calls upon the Dominion Government to erect a sanitarium for the care and treatment of consumptives or else grant aid for the purpose. The Calgary Council will gladly coöperate with the Dominion Government in the matter.

Personals.—Dr. Peter B. Wood, at one time a famous twirler in the old International Baseball League, and who has been residing and practicing in Butte and Anaconda, Montana, has returned to Canada to practice at Hamilton, Ont.——Dr. E. P. Benoit has been appointed physician to the Montreal jail.——Dr. G. C. Ferrier, who was gradüated from Queen's Medical College two years ago, has been appointed a member of the Canadian Field Hospital Corps for service in South Africa. For the completion of this Field Hospital, each of the medical colleges of the Dominion has furnished its quota.

Toronto Home for Incurables.—A deputation from the Trustees of this institution recently waited on the Premier of the province with regard to securing an increased government grant. During the twenty-seven years the institution has been in existence it has been doing invaluable work; and during the past ten years the attendance has increased one-third. The Government's grant in 1893, when the attendance was 117, was $5651, whilst it was only $3100 in 1899, when the attendance was 132. Last year the grant was $3300. The accommodation is now taxed to its utmost, and applicants are forced to await their turn.

Sir William Hingston's Jubilee.—One evening last week a large number of the friends and confrères of Sir William Hingston, Montreal, waited on him and presented the distinguished surgeon with a portrait of himself in oil. The occasion was the celebration of his professional jubilee, Sir William having been graduated from McGill University in 1851. Sir William Hingston has always been prominently identified with the progress of medicine throughout the Dominion. He organized the first Board of Health in the Dominion, is a past-president of the Canadian Medical Association, is an honorary D.C.L. of Bishop's College University, an honorary LL.D. of Victoria University, Toronto, and is a vice-president of the Montreal Branch of the St. John's Ambulance Association.

FOREIGN.

Typhoid Fever in City of Mexico.—Special efforts are being made by the city government to restrict the spread of typhoid fever, which is quite prevalent at the present time.

International Congress of Hydrology, Climatology and Geology.—The sixth international congress will meet at Grenoble, France, in October, 1902. The address on the "Action of Mineral Waters on the Tissues" will be by Renaut of Lyons; "Microbiologic Analysis of Mineral Waters," by Bordas, and on "Climatology" by some of the Paris physicians who have been engaged in the medical balloon ascents. Hydro-mineral treatment of pulmonary phthisis, of cutaneous and gastric affections and also of constitutional taints in children, will be discussed by A. Robin, Carron de la Carrière and others.

Prizes for Essays on Tuberculosis Sanatorium.—From the large sum of money placed at the disposal of King Edward

£800 will be awarded as prizes for the best essays on tuberculosis sanatoria. The following are the conditions defined by the Advisory Committee, whose names were given in our last issue:

1. Medical men of all nationalities may compete. The papers may be either the work of a medical man or the joint production of a medical man and an architect.
2. The sanatorium is intended for 100 tuberculous patients—50 males and 50 females.
3. Of the total number of beds, 88 will be assigned to the more necessitous classes, whilst 12 will be reserved for the well-to-do.
4. The accommodation for all patients is to be comfortable, a separate room being provided for each. Superior arrangements to be made for the more wealthy patients.
5. It may be taken for granted that the sanatorium will be erected on an elevated and sloping site with a sunny exposure, and well sheltered from cold winds. It will have a farm at a convenient distance, and be surrounded by extensive grounds, well wooded, and affording ample space for exercises of various kinds. The soil will be dry and permeable, and the water-supply abundant.
6. The sanatorium must be fitted with the latest sanitary arrangements, and equipped with all requirements for scientific research. Provision should also be made for the recreation of the patients.
7. Economy in construction will be an important consideration, but it must not interfere with the reasonable comfort of the patients or the efficiency of the institution.
8. The essays must be in English and type-written.
9. The essays must not bear the name or names of their authors, but should have a motto, and each essay should be accompanied by a sealed envelope bearing the motto on the outside and containing the full name and address of the author or authors inside.
10. All essays and plans must be sent, postage paid, on or before the 15th of April, 1902, to one of the secretaries to the Advisory Committee.
11. Three money prizes of £500, £200, and £100 respectively will be awarded in order of merit on the recommendation of the Advisory Committee for the three best essays, provided they come up to the requisite standard of excellence. Brevity will be an important consideration and a summary of the main features of the scheme should be appended to the paper. Unsuccessful papers will be returned to the authors.

LONDON LETTER.

The Smallpox Epidemic—Great Increase.

The epidemic of smallpox in London continues to progress. The number of cases in hospital now amount to 739, and 24 have been admitted on the last day reported (January 2). Twenty-four fatal cases occurred in the week ending December 21. For the four weeks ending December 28 the number of cases in hospital were 474, 506, 538, and 665 respectively, and the number of cases admitted were 170, 134, 161 and 225 respectively. The highest number admitted on one day was 42. The errors of diagnosis committed by physicians have been referred to several times in THE JOURNAL. In one case as many as 20 persons were infected in consequence of the failure to diagnose the disease: A married woman was taken suddenly ill. The doctor called in diagnosed blood poisoning, which he thought might have been due to a meal of oysters. Two other physicians were called in and also failed to recognize the disease. The patient got no better and the medical officer of health saw her on the eighth day, pronounced the case to be smallpox and ordered her removal. But she died before the ambulance arrived. The remaining members of the family were stricken one after the other. There are now in hospital, her husband, daughter, brother, 2 sisters, brother-in-law, 3 sisters-in-law and 6 other relatives. A man was found sorting letters at the postoffice with the disease developed; a girl with smallpox was selling Christmas toys; a boy affected was working a lift at a big store, and must have touched hundreds of people in the day. An emergency hospital of 300 beds is being erected which will raise the number of available beds to 1600. Following what appears to be a German example, several of the public health boards have made chicken-pox a notifiable disease, so that the Medical Officer of Health may be able to visit them and detect cases of misdiagnosed smallpox. In the Borough of St. Pancras 115 cases of chicken-pox were notified in 9 weeks of which 2 were found to be cases of smallpox.

Prevention of Tuberculosis—The Ventilation of Workrooms.

The National Association for the Prevention of Tuberculosis, to whose influence the recent highly successful British Congress on Tuberculosis was due, has not lost any time in endeavoring to give effect to the resolutions of the Congress. It has just issued a circular to the various employers' associations pointing out the importance of ventilation in the workrooms. The council of the association state that they are confident that if sufficient fresh air is supplied to the workers there will be a great reduction in all kinds of lung diseases, especially consumption and that their power of work will be enhanced, which means a saving to the employer greater than any outlay involved. In the British Army and Navy enormous losses in former years were reduced to less than a third by better ventilation and drainage.

The Health of London.

The ninth annual report of the Medical Officer of Health for London recently issued contains much interesting information. The population now approaches five millions. The death-rate of the last 50 years shows a steady improvement. Thus the rates per 1000 in the decades 1841-50, 1851-60 and so on to 1881-90 were respectively 24.8, 23.7, 24.4, 22.5, 20.5; in the years 1891, 1892, etc., to 1900, 20.5, 21.0, 20.3, 21.0, 17.4, 19.5, 18.2, 17.3, 18.4, 19.6 and 18.6. The death rate of London, corrected for age and sex distribution in 1900, was only 20.4, while that of other great but much smaller towns was: Manchester (population, 548,700) 27 3; Birmingham (519,000), 23.8; Liverpool (634,000), 28.2; Leeds (431,000), 22.2; Sheffield (365,000), 25.1. During the decennium, 1891-00, as compared with 1881-90, there has been a mean annual saving of 3664 lives. In connection with the present epidemic of smallpox the number of cases in past years is of interest. From 1890 to 1900 the annual numbers are 40, 114, 425, 2815, 1193, 980, 225, 104, 33, 29, 86. Much of the smallpox of 1900 originated abroad.

Munificent Gift for the Erection of a Tuberculosis Sanatorium.

A donor, who wishes to be unknown, has placed at the disposal of the king the sum of $1,000,000, to be applied for charitable or utilitarian purposes. His majesty has directed that this splendid gift shall be used for the erection of a sanatorium for tuberculous patients, and has appointed an advisory committee. [See THE JOURNAL, January 11, p. 117.] It is intended to construct the sanatorium in the best manner that experience and original thought can suggest. In order to obtain the most valuable opinions the sum of $4000 will be awarded in prizes for the best essays and plans on the subject. Medical men of all nationalities may compete. The papers may either be the work of a medical man or the joint production of a medical man and an architect. The sanatorium is intended for tuberculous patients, 50 male and 50 female. Of the total number of beds 88 will be assigned to the more necessitous classes and 12 will be reserved for the well-to-do. The accommodation for all must be comfortable, a separate room being provided for each. The sanatorium will be erected on an elevated and sloping site, with a sunny exposure, and will be well sheltered from cold winds. It will have a farm at a convenient distance, and be surrounded by extensive grounds, well wooded and affording ample space for various kinds of exercises. The soil will be dry and permeable and the water supply abundant. The sanatorium will be fitted with the latest sanitary arrangements and equipped with all requirements for scientific research. All essays and plans must be sent, postpaid, on or before April 15, 1902, to one of the secretaries of the committee: Dr. P. Horton Smith, 15 Upper Brook Street, London, W., or Dr. J. Broadbent, 35 Seymour Street, London, W. Three prizes of $2500, $1000 and $500 respectively will be awarded in order of merit for the three best essays, provided they are of the requisite standard. Brevity will be an important consideration, and a summary of the main features of the scheme should be appended to the paper. Unsuccessful papers will be returned to the authors. [See Foreign News.]

Boycott of a Lady Doctor.

An extraordinary *imposse* has been brought about by the appointment of Miss Clarke, of Glasgow, as house surgeon to the Macclesfield Infirmary. Seven months ago the lady was appointed against the advice of the staff, who held that it was a great disadvantage to the institution and that the sphere of utility was much curtailed by placing a woman in the position of a house surgeon to attend to all sorts of ailments of male patients. Miss Clarke was then requested by the governors to resign and offered a quarter's salary. The hospital could not be carried on without the male staff of physicians, who were quite obdurate, declaring that they stood out on the ground of principle. Miss Clarke was equally firm, and declared that she, too, was fighting on the grounds of principle—that of female employment—and refused all compromise. Matters were drifting into the position that by January 15 the Infirmary would have no male staff. However, Miss Clarke has been at last prevailed upon to resign, and the governors vote her a quarter's salary as a solatium out of the hospital funds. In addition a testimonial of $500 has been collected by subscription of the governors and will be presented to Miss Clarke when she leaves, in a month.

Rupture of Apparently Healthy Uterus During Labor.

At the Edinburgh Obstetrical Society, Dr. Milne Murray related a case of this extremely rare accident. A woman aged 27 was pregnant with her fifth child. Pains began about 11.30 p. m., and at 2:30 a. m. she sent for a medical man, to whom she complained of severe pain, especially at a spot midway between the umbilicus and the left anterior superior iliac spine. He could not hear the fetal heart, and he noticed the tenseness of the uterine tumor, and its marked deflection to the left. There seemed to be no contraction to account for the pain complained of. On vaginal examination there was no sign of any presenting part; the finger could not be passed through the os, and the cervix was not taken up. The fetal parts could be felt with unusual distinctness at the upper part of the tumor. It was thought that the case was probably one of extra-uterine gestation. The patient was profoundly collapsed when Dr. Murray saw her. On vaginal examination under chloroform the finger passed through the os and found the cervix only partially taken up; the lower uterine segment was empty, and in the left side a rent in the wall could be felt through which the finger passed into the abdominal cavity. Laparotomy was performed and the fetus and placenta extracted. The rent in the uterus involved the left upper region of the bladder. There was alarming hemorrhage, both from the tear in the uterus and the torn uterine artery. The uterus was removed and the rent in the bladder was closed by fine catgut stitches. Owing to the patient's condition the operation was rapidly completed without peritoneal toilet. The patient did well until the thirteenth day, when her temperature rose. It continued high until the sixteenth day, but fell soon after a copious discharge of pus from the vagina. Recovery followed. The formation of pus was attributed to imperfectly sterilized ligatures. No cause could be found for the rupture. To the naked eye the uterus presented nothing abnormal and microscopic examination of tissue from the rent showed a perfectly normal structure. With regard to the variety of fluids, including meconium, which escaped into the peritoneum, Dr. Murray thought that if the material was not septic the less the peritoneal cavity was disturbed by attempts at cleansing the better. Of course, if septic matter were present it should be removed at all costs. Few cases have been recorded of rupture at the beginning of labor of a uterus without any gross complication. Such cases have been reported by Ingersley Hofmeier and Prof. A. R. Simpson. In the two first nothing abnormal could be found in the uterus; examination revealed nothing. In Simpson's case there was marked fatty degeneration of the muscular fibers.

Inquest on a Peruvian Mummy.

Conservatism and almost mechanical attachment to routine is well illustrated by the following exploit of one of the London coroners. A case containing a Peruvian mummy, intended for a Belgian museum, arrived in London and was opened. The man who opened it became frightened and reported the matter to the coroner. The latter held an inquest on the mummy. Under his direction the following grotesque verdict was brought in, "that this woman was found dead at the Railway Goods Station, Sun Street, on April 15, and did die on some date unknown in some foreign country, probably South America, from cause unknown. No proofs of violent death found and the body has been dried and buried in some foreign land, probably sundried and cave buried. The jurors are satisfied that this body does not show any recent crime in this country, and that deceased was unknown and about 25 years of age."

Indian Sanitation.

A comprehensive blue-book, containing a report on sanitary measures in India during 1899 has just been issued. The European troops appear to have enjoyed better health than in the previous year. On an average strength of 67,697 the admissions to hospital were in the ratio of 1149 per 1000, against 1437 in 1898. The chief cause of mortality was typhoid fever, which was responsible for 40 per cent. of the total deaths. Of causes of sickness the list is headed by ague and venereal diseases, the latter being responsible for 27 per cent. of the total illness, and over 20 per cent. of the invaliding. The loss by invaliding to the army was 2142. The health of the native army was also better than in 1898. Ague was the principal cause of illness. For venereal disease, the admission rate was only 34.1 per 1000, as compared with 313.4 in European troops. For the general population the year was healthy. A higher birth-rate resulted from the recovery from famine. The death-rate was 29.95. The number of successful vaccinations was 7,437,916. There are 2472 hospitals and dispensaries in India. The number of in-patients was 355,769, out, 20,238,917. The reports on the progress of sanitary work, water supply, and drainage from different cities and provinces were most satisfactory.

Correspondence.

Human and Bovine Tuberculosis.

BROOKLYN, N. Y., Jan. 6, 1902.

To the Editor:—Your editorial entitled "Human and Bovine Tuberculosis," published in your issue of the 4th inst., contains so many errors that it is surprising that it should appear in the columns of a reputable journal.

May I inquire how you know that the "experiment was poorly conceived" and "lacked many of the essentials for a satisfactory scientific proof of what it was intended to show"? Your only authority must have been the daily press, to the representatives of which I declined to give the details for the reason that I did not desire the publicity it would entail before the test was finished. As usual, the story was made up from meager information largely obtained from hearsay, and it went out as coming from me. Had you wished to know the truth of the matter, I would gladly have furnished it at your request. A journal purporting to be scientific in character should be more careful of its facts.

Again, you say that the experiment "is at last discredited by the findings of the Brooklyn health authorities that his inoculated cow did not have tuberculosis." This is absolutely false. I have before me the sworn statement of Dr. Ackerman, veterinarian of the Board in question, which states that he condemned the cow because it was tuberculous. A copy of this document is at your disposal should you desire to see it. The veterinarian who assisted me in the experiment with the cow (Dr. Walter L. Bell, of this city), also says the same thing. And I myself found tubercle bacilli in a gland taken from the axilla of the animal and my findings were corroborated by a medical friend who is an expert in that line. In view of these facts it is fair to presume that your statement that my experiment with the cow was a failure, is erroneous.

Your strictures upon the inoculation of the human being are also entirely uncalled for, when it is considered how little you know about the case. When the whole truth concerning it shall have been made public, it will be found that my efforts to advance medical knowledge will be completely justified.

GEORGE D. BARNEY, M.D.

Our comments on the case were based on a published statement by Dr. Cyrus Edson, which he has informed us was printed as dictated by him. He says:

> Dr. Barney refused to permit me to see or examine the young woman upon whom he has experimented, and forced me to rely entirely upon his own statements regarding the experiment. Accepting all his statements as true, I am led to an inevitable conclusion—namely, that he has demonstrated nothing, and that his experiment is of no scientific or practical value. . . .
>
> We now come to the consideration of the alleged inoculation of a human being with the diseased products of this cow. Dr. Barney told me that on November 9 he inoculated a young woman with infective material taken from the cow and that he has succeeded in producing the symptoms of tuberculous disease in the person so inoculated; that on December 5 a prominent specialist in lung diseases examined the patient and declared that she was suffering from tuberculosis, and that two days later another specialist examined the patient and made the same diagnosis. Dr. Barney refused to give me the names of these specialists. He claims that he now has the patient under treatment and expects to effect a cure. . . .
>
> And now as to the ethics in this case. Assuming for the moment that the cow did have tuberculosis and that the disease germ was injected by Dr. Barney into the girl's neck and that she developed tuberculosis, all of which is alleged by Dr. Barney, there could be but one opinion concerning the ethics of an experiment of this character. This opinion the reader may form himself from questions I put to Dr. Barney and his answers. I asked: "Dr. Barney, do you claim to cure 100 per cent. of your cases?" He replied: "No. I can cure 92 per cent. in the first stage of the disease."
>
> "Then, how do you know," I asked, "that you have not killed this girl?"
>
> Dr. Barney hesitated, turned color and replied rather incoherently and certainly not to the point: "I did this simply to make assurance more certain."
>
> The numerable sources of error which interfere with medical investigation render imperative a great series of experiments in order to prove even the simplest medical fact. It is impossible from one or two experiences to attribute a given result to a definite course. In no line of science is it so difficult to demonstrate the difference between cause and effect.

From the above, and the allegations of Dr. Barney in the context not quoted, it seems to us that we were fully justified in saying that the experiment lacked many of the essentials of a scientific demonstration. In the first place, it is a long way from demonstrating that the dangers of ingestion of tuberculous meat or milk are not practically *nil* even if direct inoculation does

produce the disease. Moreover, any one experiment can prove little; there are too many possibilities to be considered. Only a long and painstaking investigation could be absolutely conclusive. Dr. Barney's alleged claim seems to us altogether premature, the more so since he withholds details. If he has tried to avoid publicity he has been most unfortunately unsuccessful, and we believe that a serious attempt at privacy ought to have succeeded. As regards the ethical question we shall not retract our strictures on the alleged experiment on the young woman. It is not necessary to know any more about the case than has become, as it were, common knowledge to justify the condemnation. There are in medicine conditions in which it might be justifiable to risk life for the good of others, but we do not see them in this case, and can only reiterate our opinion that if the experimenter had experimented upon himself the case would have had at least a better moral aspect and the opportunities for obtaining anything of value from the results could not have been any worse.—EDITOR.

A Visit to Finsen's Institute.

CHICAGO, Dec. 30, 1901.

To the Editor:—Copenhagen is proud of its famous citizen. The kingdom of Denmark has contributed a sum of money sufficient to erect quite an imposing structure to house the Institute.

The Institute is located in a fashionable quarter of the city. The site was chosen on account of its seclusion. The residents strongly objected, but without avail, as it was decided that the unfortunate lupus patients needed such an environment of retirement and refinement in order to while away the long weeks of treatment.

The attendants are polite and are more than anxious to explain the operation of the remedial agent. They claim to cure 90 per cent. of all cases. To prove this they show you a large album of photographs of patients on entering and leaving the Institute. The transfiguration truly borders upon the marvelous. The once repulsive features are changed into those of a normal being. It is an interesting sight to watch the patients from every part of Europe walking up and down the corridor arm in arm waiting their turn for treatment.

In the amphitheater, which consists of one large square room, you are at once erveloped in an intense red glare coming from the electric globes. There are six 22,000 candle power arc-lights, shaded with red paper. They remind you very much of piano lamps. About each lamp six patients recline, each upon an elevated couch, with a nurse standing by his or her side. The light is so glaring that both patients and nurses have to wear dark glasses. Each patient requires a separate nurse, for it is necessary to hold continually a disc firmly pressed against the face, through which the light is projected. The tubes that direct the light upon the affected surface look very much like telescopes. There is one tube for each patient. The purpose of the telescopic arrangement is that all the heat rays shall be eliminated, and only the chemical, consisting of the blue, violet and ultra-violet, allowed to pass on. For it appears that they alone possess the bactericidal power. The exclusion of the yellow and red rays is effected by an ingenious combination of lenses together with the assistance of water. The treatment consumes one hour. Though the Institute is in full blast from 7:30 a. m. to 8 p. m. there is always a long waiting list. The power to furnish the arc-lights is in the basement immediately beneath the operating room. It was necessary to have their own plant in order to generate the extreme amount of electricity required.

Professor Finsen first employed sunlight in his experiments, but soon discovered that the sunshine in that climate was too uncertain. Patients come here from all parts of the world. The Institute is very democratic, for there is no distinction in race, color or condition. They are all treated alike.

The average time for a case is about seven months, or it may require more than a year. Some mild cases recover in a few weeks.

The charge to a Dane is $18 per month, to an outsider $30. But since all Denmark is so enthusiastic over it, a Dane, though without the means, can have his expenses defrayed by the district from which he comes.

As these patients on account of their unsightliness experience great difficulty in obtaining lodgings, two shrewd former patients established a boarding-house and their enterprise has been richly rewarded. A. K. WARNER, M.D.

National Board of Medical Examiners.

DETROIT, January 12, 1902.

To the Editor:—Permit me to make a few remarks concerning the editorial, "National Board of Medical Examiners," in the last issue of THE JOURNAL. I should like to take exception to the statement: "Without taking space to give our reason, we believe the ultimate results of reciprocity, as now understood, would be to lower rather than to elevate the standard." This statement is erroneous. Aside from this remark, however, I should like to endorse, very emphatically, the ideas expressed in the editorial. The opinion has been expressed also by me, some time ago, that "the most desirable regulation of the license to practice medicine would come from a National Board controlling the whole of the United States." I also said that our Constitution prevents this solution at present. The solution advocated in the editorial comes nearest to this. You mention as cardinal points:

1. A Board of Examiners which shall have authority to grant licenses that shall be recognized throughout the country.

2. The examination should in part be conducted in hospitals and laboratories, i. e., they shall be practical.

3. A fair standard of preliminary education should be required.

4. The applicant shall be a graduate from a reputable medical college.

I should like you to add:

5. The National Board shall inspect the medical colleges and decide which colleges can be regarded to be of a high standard as to teachers and teaching facilities.

Practical considerations may, perhaps, show that more than nine members may be required on the Board, and that a subdivision may be necessary. Taken as a whole, I must admit that a more ideal solution of the complex problem may not be found, at the present time. I, therefore, take occasion to recommend, most heartily, the institution of a National Board of Examiners as suggested in your editorial and I hope that decided steps will be taken at the next meeting of the American Medical Association to advance the solution of a question which is of such great importance for the public as well as for the medical profession. Meanwhile the establishment of interstate reciprocity on the basis of uniform medical legislation should be furthered by all possible means.

Very truly yours, EMIL AMBERG, M.D.

Secretary of the Committee on Uniform Medical Legislation of the Conference of the Committee on National Legislation of the American Medical Association and Affiliated Societies.

PEKIN, ILL., Jan. 11, 1902.

To the Editor:—I have just read your editorial in to-day's number of THE JOURNAL, and it occurs to me that there is an easier and simpler way of deciding as to professional qualifications than any yet proposed. The primary object of all medical legislation is to protect the people from the ravages of the army of charlatans that infest the country. Does it succeed? No. Look at our own Illinois, the pioneer in medical legislation: Chicago is full of quacks. Peoria, Quincy, Springfield, and every other city in the state is infested with them. Even in Pekin we have a "magnetic healer" that can not spell *sugar*, and I am told he is making more money than any competent practitioner in town. Then we have Eddyites galore, and a few Dowieites just out of town. Notwithstanding all this infringement upon the intent of the law, the most learned professor in the country outside of Illinois could not practice here without passing the required examination. The Army, the Navy and the Marine-Hospital services will continue their examinations as usual. It is with the State Examining Boards

that I am concerned. They usually adopt their own special rules as to qualifications. Now, in transferring from one state to another, why not accept membership in the American Medical Association as evidence of necessary qualification? Each member is also a member of his state and local societies; he has the recommendations of all these, and this, it seems to me, should be sufficient evidence of fitness, and should be so recognized by all state boards. Very respectfully,

JNO. I. SKELLY, M.D.

Book Notices.

EXPERIMENTELLE UND KRITISCHE BEITRAEGE ZUR HAENDEDISINFECTIONSFRAGE. Von Dr. Richard Schaeffer, in Berlin. Mit 12 Tabellen und 4 Abbildungen auf 2 Tafeln. Paper. Pp. 110. Berlin: Verlag von S. Karger. 1902.

This monograph gives the details of investigations and experiments in regard to the important question of hand disinfection in surgery. The author finds as a result of his studies that even the most careful washing and brushing of the hands and the employment of very hot water and numerous changes, even for a long time, will still leave numbers of germs upon the skin. The employment of sand and sterile towels scarcely perceptibly diminishes their number. The employment of aseptics such as sublimate, lysol, etc., are not sufficient to effectively reduce the number; they may reduce the number of colonies in cultures but not destroy them entirely or leave the hand in a safe condition, nor can we expect any very germicidal action of alcohol. That in his experiments he produced 1000 colonies from filtered debris of alcohol employed is one of the most satisfactory confirmations, in his opinion, of these views. Alcohol, however, is excellent as a mechanical cleansing agent and can so reduce the number of germs, especially in addition with hot water, as to make the danger of infection small. It is also on theoretic grounds advisable that the hands should be bathed in a sterile fluid, the most satisfactory for which would be a 1 per cent. sublimate solution. As regards the question of gloves he believes that if they do not seriously affect the tact sense their employment is in the line of surgical asepsis. The impermeable gloves, other things being equal, are still better than those which are permeable. The importance of quick and accurate operation is dwelt upon, leaving of smooth wounds and the avoidance of tears, etc., in operations. We can not avoid air infection, which is even more uncontrollable than that of the hands, and, therefore, the quicker the danger is past the less the chance of infection. For slight operations, infection even without the use of gloves can be practically excluded if care is taken as to this detail. In severer operations, of course, it may be impossible. The subject is one that requires still more study and experiment to give thorough satisfaction in regard to the possibilities. The work seems to be a rather important memoir on this specially important subject.

STUDIES OF THE INTERNAL ANATOMY OF THE FACE. By M. H. Cryer, M.D., D.D.S., Professor of Oral Surgery, Department of Dentistry, University of Pennsylvania. Cloth. Pp. 176. With 151 illustrations. Philadelphia: S. S. White Dental Manufacturing Company. 1901.

The view that no illustrations are so true to nature as photographs is adopted by Dr. Cryer. His work (illustrated with half-tone illustrations from photographs of actual sections of the bones of the face and jaws) is the result of "an investigation during which hundreds of skulls have been dissected and studied." This is a marked departure from the methods of studying anatomy so long in vogue. The tissues as they exist in their relation to each other are beautifully shown.

The illustrations are reminders to the student of anatomy that, as the author remarks, "owing to the degeneracy of the face and jaws it is possible though doubtful that in a thousand bones two or three should be found which exactly correspond with the typical bones so pictured."

In the evolution of man, the face and jaws, as Talbot has shown, undergo arrests of development and more marked deformities may exist than any illustrated in this work, which is a gentle reminder to dentist and rhinologist alike to study the origin of these structures before undertaking special treatment. The author has not fully mastered the law of economy of growth, now nearly twenty centuries old. His views as to the predominance of the cerebellum as a cause of prognathism will appear antiquated to modern anatomists. The work, while of value, has little anthropologic and biologic data.

A TREATISE ON MEDICAL JURISPRUDENCE. Based on Lectures Delivered at University College, London. By George Vivian Poore, M.D. (Lond.), F.R.C.P., Professor of the Principles and Practice of Medicine, University College, London. With Illustrations. Cloth. Pp. 533. Price, $4.00. New York: Longmans, Green & Co. 1901.

These lectures, delivered at the University College, London, and taken in shorthand for the *Clinical Journal*, are reproduced in this work. Its ready colloquial style and illustrative remarks on the cases make it almost as interesting as a novel. It is especially adapted to English laws and usages and the references, of course, are made to the English statutes and practices rather than to the American, but that will not necessarily seriously affect its value to American readers. A few things here and there, as might be expected, are superficially treated, and it would not be entirely safe, for example, to follow the author's distinction as regards poisonous and non-poisonous mushrooms. There may be other slight inaccuracies, but we believe they are rather few, and on the whole the book will be a safe guide. Insanity is treated rather sketchily and much dependence seems to be placed upon the illustrations which we do not consider the best way of giving students an idea as to the different forms. In fact, the illustrations of insanity are very poor substitutes for actual experience with cases or really good descriptions, and the space taken up in this book might perhaps have been better filled. The book is one that can well be added to any specialist's library and would be convenient for consultation by both lawyer and physician.

MODERN OBSTETRICS, GENERAL AND OPERATIVE. By W. A. Newman Dorland, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Assistant Obstetrician to the University Hospital; Associate in Gynecology in the Philadelphia Polyclinic; One of the Consulting Obstetricians to the Southeastern Dispensary for Women. With 201 Illustrations. Second Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders & Co. 1901.

This work deserves commendation, and that it has received what it deserves at the hands of the profession is attested by the fact that a second edition is called for within such a short time. Especially deserving of praise is the chapter on Puerperal Sepsis. The various forms of puerperal sepsis are classed under General and Local, and under these heads the different forms are discussed in a systematic, practical and altogether satisfactory manner. This chapter will unquestionably help to bring about more accurate and scientific diagnoses in these cases. The happy-go-lucky manner in which the terms "puerperal sepsis" and "puerperal infection" have been and still are used by many writers to indicate pathologic conditions which differ widely, is reprehensible, and all efforts toward a systematic and scientific classification of the various forms of puerperal infection are to be commended. Such an effort has been made by the author, and the degree of success attained is as great as could be expected in the present state of knowledge.

A TEXT-BOOK OF MEDICINE. Begun by the late Charles Hilton Fagge, M.D., F.R.C.P., Sometime Physician to Guy's Hospital. Completed after his death and since revised or re-written by Philip Henry Pye-Smith, M.D., F.R.S., Fellow of the Royal College of Physicians. Fourth Edition. In Two Volumes. Vol. I. Cloth. Pp. 1123. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This is a well-known standard text-book in Great Britain, but it has never obtained anything but a fair recognition in this country. The general arrangement and method of presenting the subject is unique but excellent. The work was originally written by Dr. Charles Hilton Fagge, who died in 1883, leaving the manuscript practically completed, but the book did not appear until two years later. Since then it has reached the fourth edition and, as is stated in the preface, "there is scarcely a page of the late Dr. Fagge's work as he left it at the time of his premature death in 1883." Although, as a rule, the book is up to date, some parts of it do not bear strong evidence of this. None of the literature on yellow fever is referred to a later date than 1897, and the recent discoveries regarding the transmission of malaria are not mentioned. The section on "Tuberculosis" might have been written ten years ago, so far

as it refers to modern ideas. As a whole, however, the work is thoroughly reliable and with few equals as a text-book on general medicine.

NEUROLOGICAL TECHNIQUE. Some Special Histological Methods Employed for the Study of the Nervous System, Together with a Laboratory Outline for the Dissection of the Central Nervous System and the Neurological Nomenclature (BNA) Arranged in a Classified List. By Irving Hardesty, Ph.D., Instructor in Anatomy, the University of California. Cloth. Pp. 183. Price, $1.75 net. Chicago: The University of Chicago Press. 1902.

The University of Chicago Press has sent out this volume, which ought to be a very useful one for consultation by asylum, hospital and other physicians who have the opportunity to make anatomic preparations of the nervous system. The recognized methods are described both for the preparation of sections and of dry and wet specimens for museum purposes, with also directions for dissection and postmortem work. We do not know any other book of its size that seems quite as complete and useful as the present one, and none, of course, that ought to be more up to date. The anatomic nomenclature of the Basel commission is given in the concluding chapter as far as it covers the nervous system, and is a very useful feature.

THE DIAGNOSIS OF NERVOUS AND MENTAL DISEASES. By Howell T. Pershing, M.Sc., M.D., Professor of Nervous and Mental Diseases in the University of Denver. Illustrated. Cloth. Pp. 223. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1901.

The object of this little work as stated by the author is to facilitate the recognition of disorders of the nervous system and mind by those who are not specialists in the departments of neurology or psychiatry. It is, therefore, simply a compilation of facts and in the main, especially as regards the neurological side, judiciously made. We do not think that its classification of mental disorders is exactly that which is coming to be most generally accepted, and some of the types and diagnostic symptoms will not be of such service as will be the case with those in regard to nervous diseases proper. The author largely follows the etiologic classification and recognizes a number of types of mental disease which really have no clinical existence, in our opinion. This, however, is of minor importance. As a guide in medical diagnosis of diseases of the brain and nervous system it will be found decidedly serviceable to the general practitioner.

ATLAS AND PRINCIPLES OF BACTERIOLOGY, and Text-Book of Special Bacteriologic Diagnosis. By Prof. Dr. K. B. Lehmann, Director of the Hygienic Institute in Würzburg, and R. O. Neumann, Dr. Phil. and Med., Assistant in the Hygienic Institute in Würzburg. Authorized Translation from the Second Enlarged and Revised German Edition. Edited by George H. Weaver, M.D., Assistant Professor of Pathology, Rush Medical College, Chicago. Part II. Text; Part I. Atlas. Philadelphia and London: W. B. Saunders & Co. 1901.

The present volumes of Saunders' well-known series of Medical Hand-Atlases are fully up to the standards of the previous books in this series. These two volumes on bacteriology contain a vast amount of essential information conveniently arranged. The illustrations are many of them striking and can not but be of service to all engaged in general work in bacteriology, more particularly students. The translation is good, and the work of the editor has improved the text very materially, especially in correcting numerous mistakes in the references of the original to the literature and in verifying and correcting references to the plates. References to articles in English have also been inserted.

TEXT-BOOK OF MEDICINE FOR STUDENTS AND PRACTITIONERS. By Dr. Adolf Strümpell, Professor and Director of the Medical Clinique at the University of Erlangen. Third American Edition, Translated by Permission from the 13th German Edition, by Herman F. Vickery, A.B., M.D., Instructor in Clinical Medicine, Harvard University; and Philip Coombs Knapp, A.M., M.D., Ex-President of the American Neurological Association; with Editorial Notes by Frederick C. Shattuck, A.M., M.D., Jackson Professor of Clinical Medicine, Harvard University. With 185 Illustrations in the Text, and One Plate. New York: D. Appleton & Co. 1901.

A book which has reached thirteen editions in the original language and three in its English translation does not require any extended notice at this time. Suffice it to say that since the second edition of this English translation appeared in 1893, seven new editions have appeared in Germany so that the book has been almost wholly rewritten and must be considered as fully in line with the most recent knowledge. The translators have added a chapter upon the bubonic plague, and notes that may be of assistance to the American physician. Dr. F. C. Shattuck has made a number of editorial notes, which also increase the value of the work.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM. Being a Practical Treatise on Fistula, Piles, Fissure and Painful Ulcer, Procidentia, Polypus, Stricture, Cancer, etc. By William Allingham, F.R.C.S. Eng., Ex-Member of Council of the Royal College of Surgeons of England; and Herbert W. Allingham, F.R.C.S. Eng., Surgeon to the Household of His Majesty the King. Seventh Edition. Cloth. Pp. 471. Price, $3.25. New York: William Wood & Co. 1901.

This work is a leading English publication on its subject. The changes which have been made as given by the author are condensation where possible and such slight alterations as the advances of rectal surgery require, chiefly in the matter of excision of the rectum and inguinal colotomy. The work is rather full in its notice of American literature, though it makes no mention whatever of Martin's valves, the existence of which is one of the much discussed questions among American proctologists. The work is well issued by Wood and Company, and ought to be a useful addition to American literature on the subject.

DISEASES OF THE NOSE AND THROAT. By Cornelius G. Coakley, M.D. Second Edition, 12mo. Pp. 556. Philadelphia and New York: Lee Brothers. 1901.

This book is a summary of many well-known books on Diseases of the Nose and Throat, and of recent literature, but it contains nothing new, and the facts are not presented in a novel manner. It might be a handy book for physicians who wish now and then to brush up hastily on the diseases of which it treats, but it can not be especially recommended for those who desire precise information upon these subjects. The recommendation of a 10 per cent. solution of cocain for nasal anesthesia does not appear judicious. It is certain that many patients will be unpleasantly affected by this strength, and much weaker solutions are quite efficacious.

A HANDBOOK OF DISEASES OF THE NOSE AND PHARYNX. By James B. Ball, M.D. (Lond.), Physician to the Department for Diseases of the Throat, Nose, and Ear, West London Hospital. Fourth Edition. With 61 Illustrations. Cloth. Pp. 439. Price, $2.25. New York: William Wood & Co. 1901.

This book presents no great changes from the previous edition. It has been revised and a number of corrections and alterations have been made. The size remains nearly the same, there being no considerable addition to the number of pages as found in the third edition. The various subjects are treated quite comprehensively and more fully than in most handbooks. The writing is logical—the text self-explanatory. To the senior student and practitioner, for whom it is designed, the book will be found instructive and quite satisfactory.

A MANUAL OF MEDICINE. Edited by W. H. Allchin, M.D. Lond., F.R.C.P., F.R.S. Ed., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Volume III. Diseases of the Nervous System. Cloth. Pp. 417. Price, $2.00. New York: The Macmillan Co. 1901.

This third volume of Allchin's Manual of Medicine comprises a consideration of the diseases of the nervous system and is a very reliable though an abbreviated compendium on its subject. Among the contributors are Drs. Sherrington, Taylor, Turner and others, all well known. The subjects seem to be well handled. In conclusion it gives a chapter on medical ophthalmology and one on the medical application of electricity, both of which are serviceable additions.

FIRST AID TO THE INJURED AND AMBULANCE DRILL. By H. Drinkwater, M.D. Cloth. Pp. 104. Price, $0.40. Edinburgh and London: Ballantyne, Hanson & Co.

This is a very convenient little manual of first-aid, useful both as regards its descriptions and its illustrations, which are well selected and ought to be very serviceable. It would be well for many physicians who are not in daily contact with surgical emergencies to look into a little book like this once in a while to freshen their memories as regards what might have to be done. So far as we can judge it is one of the best of its kind and its size makes it very convenient.

MICROBES AND HEALTH. By Samuel J. Wilson, M.D., Detroit, Mich., Member Clinton County Medical Society. Cloth. Pp. 230. Price, $1.00. Lansing, Mich.: Robert Smith Printing Co. 1901.

The author of this little work seems to be a faddist in his opposition to the germ theory of disease. His conclusions and reasoning are not convincing and not likely to be very influential with the profession.

Married.

EDWARD HOWARD, M.D., to Miss Eliza E. Berryman, both of Denver, Co., January 1.

RAY K. BARRY, M.D., to Miss Harriett Wilson, both of East Aurora, N. Y., January 1.

VICTOR G. VECKI, M.D., to Mrs. Minnie A. Vecki, both of San Francisco, Cal., January 5.

BENJAMIN O. COATES, M.D., to Miss Mary Rose, both of Cleveland, Ohio, January 4.

WILLIAM A. REID, M.D., Checotah, I. T., to Miss Alice Leeper, of Virginia, Ill., January 1.

WILLIAM L. RAYL, M.D., to Miss Pearl A. Bates, both of Caledonia, Mich., January 1.

JAMES C. DURRUM, M.D., Clarksville, Texas, to Miss Parks, of Irvine, Ky., December 23.

ROBERT L. GALLAHER, M.D., Texas, to Miss Mae Rhea, of Knoxville, Tenn., January 7.

EDWARD H. KNITTLE, M.D., to Miss Elizabeth Neelan, both of Onslow, Iowa, December 25.

ALBERT CHARLES ZAISER, M.D., to Miss Grace Melcher, both of Burlington, Iowa, January 1.

C. E. WRIGHT, M.D., Oskaloosa, Iowa, to Dr. J. D. McIntosh, of Charles City, Iowa, January 1.

G. WOGAN HURSH, M.D., Columbia, S. C., to Miss K. G. Weidy, of Tamaqua, Pa., January 1.

WALTER ALDMOND HAGER, M.D., to Miss Harriet Campbell, both of South Bend, Ind., January 8.

WILLIAM BRIMBLE-COMBE, M.D., Carmi, Ill., to Miss Lucy Land, of Big Prairie, Ill., December 31.

EDWIN S. DAY, M.D., Earlham, Iowa, to Miss Sydna Compton, of Bear Creek, Iowa, December 24.

FREDERICK E. SQUIRES, M.D., Livonia, N. Y., to Miss Maude E. Riley, of Geneseo, N. Y., December 31.

GEORGE E. SENKLER, M.D., St. Paul, Minn., to Miss Abigail Dickson, of Milwaukee, Wis., January 7.

RICHARD G. CALLIHAN, M.D., to Miss Nettie Roland, both of Luray, Mo., at Kahoka, Mo., Nov. 24, 1901.

EDWIN J. EVANS, M.D., Rockland, Mich., to Miss Katherine Leary, of Lake Linden, Mich., December 26.

CHARLES MILTON LEIGHTON, M.D., to Miss Nellie Gertrude Sherry, both of Portland, Maine, January 6.

ROBERT T. SPAIN, M.D., Des Moines, Iowa, to Miss Verena Theresa Kramer, of Keota, Iowa, January 1.

EDMUND C. SANDFORD, M.D., Worcester, Mass., to Miss Florence Bartling, of Berkley, Cal., December 28.

ALEXANDER J. MCCANNEL, M.D., Lakota, N. Dak., to Miss Lora Tompkins, of Grand Forks, N. Dak., December 18.

WILLIAM B. HUNN, M.D., McKinney, Texas, son of Dr. George Hunn, Shelby City, Ky., to Mrs. Mary Steele, of McKinney.

JAMES PERCY SNELLING LENFESTEY, M.D., De Pere, Wis., to Miss Caroline Agnes Hurlbut, of Green Bay, Wis., January 15.

EDWIN L. CARY, M.D., Whitewater, Wis., to Miss Elizabeth E., daughter of Dr. John M. Evans, Evansville, Wis., January 1.

H. S. VERNON, M.D., house-surgeon, Chicago Policlinic and Hospital, to Miss Bessie Atwood, of Chicago, January 4. They will reside in Lewistown, Minn.

Deaths and Obituaries.

James **Rodman, M.D.** University of Louisville, Ky., 1849, one of the ablest and best-known physicians in Kentucky, died suddenly of heart disease, January 10, at his home in Hopkinsville, aged 72. His death was wholly unexpected, as he seemed in his usual health and spirits on the day of his death. He practiced his profession in Hopkinsville for three years, when he went to Frankfort to erect the building for the Feeb'e-Minded Institute. Three years later he was made superintendent of the Western Kentucky Insane Asylum and remained in charge until 1889. Since that time he has retired from active practice and has acted only as consultant in exceptional cases.

William C. Dixon, M.D. University of Pennsylvania, Philadelphia, 1860, a neurologist, of Philadelphia, died after an operation for appendicitis, January 10. He served throughout the Civil war in a hospital in Philadelphia. At the time of his death he was a visiting physician to the Pennsylvania Hospital for the Insane, and one of the examiners for the insane department of the Philadelphia Hospital.

Joseph Diehl Thomas, M.D. Bellevue Hospital Medical College, New York, 1869, a prominent physician of Pittsburg, Pa., one of the founders of the South Side Hospital, a member of the local, county and state societies and the American Medical Association, and professor of genito-urinary diseases in the Western Pennsylvania Medical College, died at his home in Pittsburg, January 8, aged 58.

Charles Francis Carpenter, M.D. University of Pennsylvania, Philadelphia, 1849, who practiced in Chester County until 1857, then moved to Louisville, Ky., where he practiced until 1898, when he returned to West Chester, died at that place, January 5, after a two weeks' illness from la grippe, aged 76. During the Civil war he had charge of the Army Hospital in Louisville.

Royal B. Prescott, M.D. Long Island College Hospital, Brooklyn, N. Y., 1866, for many years a practitioner and ophthalmologist of Nashua, N. H., member of many medical societies, medical director of the National Guard of the state from 1889 to 1894, and president of the local board of pension examiners, died at his home in Nashua, January 2, from pneumonia, aged 63.

William Koonz, M.D. University of Pennsylvania, Philadelphia, 1899, died about two months ago as the result of sepsis following a gunshot wound received while attending a wounded soldier during a scouting expedition in the Philippine Islands, aged 26. His remains were brought back to the United States and were buried in Philadelphia with appropriate ceremonies, January 3.

Elwood Stanley, M.D. Western Reserve University, Cleveland, Ohio, 1849, one of the oldest residents of Sandusky, Ohio, a member of the Erie County Medical Society and of the American Medical Association, who had served the county as coroner and the city as a member of the city council, died at his residence in Sandusky, January 4, after an extended illness, aged 78.

James B. Shaw, M.D. University of Glasgow, Scotland, 1836, who had been a resident of Santa Barbara, Cal., since 1850, and who practiced medicine for a short time only when he gave it up for the pursuit of sheep raising, died at his home in Santa Barbara, from pneumonia, January 7, aged 88.

Ephraim M. Reynolds, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880, a member of the American Medical Association, a practitioner of Centerville, Iowa, and formerly state senator, died January 8, at his home in Centerville. His death is said to have been brought on by excessive work in the practice of his profession.

Richard W. Hill, M.D. University of Iowa, Iowa City, 1883, for many years professor of anatomy and physiology at the Iowa State University, local surgeon for the Rock Island road and a member of the medical staffs of several hospitals, was found dead in his bed at Davenport, from heart disease, January 10.

Daniel Waldo Stearns, M.D. Harvard University Medical School, 1888, a native of Newton, Mass., died at his home in that city, January 9, after an illness of two days from kidney disease, aged 37. He was a member of the Massachusetts Medical Society and had served as a member of the common council.

William H. Williams, M.D. Yale Medical School, New Haven, Conn., 1847, a practitioner of Brooklyn for more than half a century, a member of the Kings County, New York State and American Medical Associations, died at his home in Brooklyn, January 3, aged 79.

C. Jane Vincent, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1882, for twenty years a practitioner of Allegheny, Pa., and a member of the local and state medical societies, died at her home in Allegheny, January 7, from acute indigestion, aged 48.

Norbourne N. Shipman, M.D. Medical College of Ohio, Cincinnati, 1874, who had practiced medicine in Seymour, Ind., for a quarter of a century, and was secretary of the Jackson County Medical Society, died at his home in Seymour, January 7, aged 72.

Phineas I. Mulvane, M.D. Rush Medical College, died at his home in Chicago, January 10, aged 64. His early practice

was in Bureau County, Ill., whence he moved to Topeka, Kan., where he practiced 17 years, returning to Chicago last year.

Burk Priddy, M.D. University of Nashville, Tenn., 1874, a highly-esteemed physician of Logan County, Ark., who had represented that county in the legislature during two sessions, died at his home in Magazine, January 31, from pneumonia.

Edward Steese, M.D. Cleveland (Ohio) Medical College, a retired practitioner of Brookline, Mass., and a member of the Brookline Medical Club, died at his home in that place, January 6, after a prolonged period of invalidism, aged 57.

Thomas A. Carrico, M.D. a prominent physician of Charles County, M.D., died at his home in Oakland, near Bryanstown, January 5, aged 74. He had practiced for more than half a century and served three terms in the legislature.

Gazaway B. Knight, M.D. Medical College of Georgia, Augusta, 1848, who was an active practitioner of Madison, Ga., until his retirement, ten years ago, died at his home in that place, January 3, after a short illness, aged 76.

J. J. Buchanan, M.D., assistant surgeon, U. S. Navy, and assigned to duty on the *Constellation,* committed suicide while delirious from typhoid fever at the naval hospital at Coastes Harber Island, January 12, aged 24.

Harry J. Griffith, M.D. Medical College of Ohio, Cincinnati, 1897, a promising practitioner of Morgantown, Ind., died at the Deaconess' Hospital, Indianapolis, January 2, after an operation for appendicitis, aged 27.

G. C. Gray, M.D. Missouri Medical College, St. Louis, Mo., 1882, one of the leading physicians of Harvel, Ill., died at his home in that place, December 23, after an illness of nine days, from pneumonia, aged 52.

Joseph S. Carreau, M.D. New York University, 1874, who had recently returned from a stay of two years in Europe, died suddenly from heart disease in his apartments in New York City, January 7, aged 53.

A. Howell, M.D. University of Buffalo, N. Y., 1865, a practitioner of Eagle Bend, Minn., and a veteran of the Civil war, died at his home in that place, December 28, after an operation for hernia, aged 61.

Smith T. Ferguson, M.D. Rush Medical College, Chicago, 1865, a prominent physician of Joliet, Ill., and at one time physician to the State Penitentiary, died at his home in Joliet, January 10, aged 56.

John R. McDonald, M.D. University of Nashville, Tenn., 1867, one of the best-known physicians in the Tennessee Valley, died at his home in Courtland, Ala., January 6, from pneumonia, aged 58.

Elizabeth A. Darby, M.D. Woman's Medical College, Baltimore, 1896, a practitioner of Providence, R. I., died there, January 1, from the effects of a self-inflicted gunshot wound, aged 32 years.

Justinian K. Piersol, M.D. University of Buffalo, N. Y., 1872, a prominent physician of Adrian, Mich., died at his home in that city, January 2, after a lingering illness, aged 67.

William Augustus Pierrepont, M.D. University of New York, 1882, a retired practitioner of Brooklyn, N. Y., died January 6, after a short illness, from heart disease, aged 46.

Samuel S. Shamhart, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1896, died at his home in Hyattville, Wyo., as the result of an overdose of chloral, January 2.

Joshua M. Doan, M.D. a prominent young physician of North Bend, Neb., died from the effects of an accidental gunshot wound, at the Fremont Hospital, January 6, aged 27.

George W. James, M.D. Rush Medical College, Chicago, 1865, who had practiced in Lawson, Mo., for thirty years, died at his home in that place, January 2, aged 64.

John D. Young, M.D. Kentucky School of Medicine, Louisville, 1865, a well-known physician of Central New York, died at his home in Starkville, January 7, aged 70.

Leroy E. Jones, M.D. Geneva (N. Y.) Medical College, 1845, one of the oldest practitioners in New York State, died at his home in Buffalo, January 6, aged 81.

Charles Schaper, M.D. Rush Medical College, Chicago, 1885, a practitioner of Franklin, Wis., died at his home in that place, December 29, from consumption, aged 42.

Frank M. Hayes, M.D. Western Pennsylvania Medical College, Pittsburg, 1893, died at his home in Allegheny, Pa., January 2, from pneumonia, aged 40.

James S. Whedon, M.D. Geneva (N. Y.) Medical College, 1866, who practiced in Syracuse from 1877 to 1899, died in Jordan, N. Y., December 26, aged 57.

William W. Young, M.D. University of Pennsylvania, Philadelphia, 1894, died at his home in Nanticoke, Pa., January 6, from sepsis resulting from a felon.

Lee A. Loggins, M.D. Washington University, St. Louis, 1898, a practitioner of Graham, Texas, died at the house of his father in Ennis, Texas, December 27.

A. L. Nichols, M.D. Rush Medical College, Chicago, died at his home in Ludington, Mich., December 28, after a two weeks' illness from typhoid fever, aged 36.

Charles C. Garrett, M.D. Rush Medical College, Chicago, 1849, was burned to death while sleeping in his office at Calvert, Texas, December 26, aged 83.

Luther Lagle, M.D. University of Louisville, Ky., 1886, a practitioner of Gainesville, Texas, died from paralysis after a short illness, December 27.

Andrew J. Christensen, M.D. Washington University, St. Louis, 1873, died January 7, at his home in Waukon, Iowa, from pneumonia, aged 75.

Scott C. Newcomb, M.D. Bellevue Hospital Medical College, New York, 1895, died at his home in Walpole, Mass., December 31, from heart disease.

W. W. Hibbard, M.D. Castleton (Vt.) Medical College, 1848, died at his home in Poultney, Vt., December 21, from pneumonia, aged 73.

Charles Forbes, M.D. University of Glasgow, Scotland, died from heart disease at the County Hospital, Georgetown, B.C., December 26.

Shannon McRill, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1897, at his home in Victoria, Ill.

Miscellany.

Food of American Soldiers in the Tropics.—The following is from the annual report of Major-General Lloyd Wheaton, U. S. Army, commanding the Department of Northern Luzon, P. I., for the year ending June 30, 1901: Contrary to theory, practical demonstration proves beyond a doubt that American soldiers serving in these islands need the full army ration, with the addition of more sugar. The same amount of first-class fresh beef is required as in Montana; health can not be maintained without an abundance of nutritious food carefully prepared. The foreign population in these islands, and the wealthy natives, are just as heavy eaters as are Americans; besides, they use a great deal of Scotch whiskey and red wine. The poor masses live on rice and fish, but not from choice. They are anemic and full of skin diseases, as the result of an impoverishing diet. Native scouts fed on the army ration soon get fat, change in appearance and gain in strength. In a number of instances many native prisoners of war, and other natives convicted of crimes, have been received at prisons suffering from beri-beri or skin diseases. The surgeons recommended the issue of the army ration, stating that such diseases were the result of an impoverishing diet of rice and fish. These diseases seem to have rapidly disappeared under the benign influences of the army ration. It has been suggested by some persons—not company commanders or their men—that a special ration should be issued to American troops serving in the tropics; but practical demonstration does not support any such opinions founded upon theory. Company, troop and battery commanders recommend no change in the ration except an increase in the amount of sugar, and the issue of oatmeal.

Have We a Fraternity?—The subject of medical ethics is one which is talked of a great deal by physicians, and probably practiced too little, or else we would have more harmony within our ranks. To do unto others as we would be done by, is a sufficient rule to follow, if we would but abide by its dictates, but how many can conscientiously claim to practice the same with professional brothers or neighbors? In the larger towns and cities it is expected that the profession should be more harmonious, but can that always be truthfully said? On the contrary, the larger the place the greater number of cliques or divisions, while in the country districts these divisions are limited, because there are fewer doctors. How many towns in the state are there in which the medical profession is a unit on the question of consultations? How many men are there who are members of the state or district

medical organizations who, for one reason or another, refuse to meet other practitioners who are also members of the same organizations? Let each member of our State Association examine himself and place a few of the interrogatives so as to ascertain whether or not his neighbor is altogether at fault. The lack of consideration for each other, and our petty prejudices formed for us by others, is the greatest producer of discord. When a doctor decides to change his location how many hands of good fellowship are extended to him by those in the field! Is it not probable that many a man would be more disposed to walk in the path of righteousness in his new sphere had he been given a welcome by those already located, and at least, better established than he? Now that we have the opportunity of raising the standard of medicine in our state through the instrumentality of the new law, it seems timely that we should ascertain whether or not we have a fraternity within our ranks.—*Texas Clinic*, October, 1901.

Prizes Offered by the Paris Academie de Medecine.—Works sent in to compete for these prizes must be received by the end of February of the year in question. Those not open to foreigners are omitted from the following list: The Académie prize of 1000 francs is, in 1902, for the best sealed article on toxins in pathology; in 1903, on means of determining the eliminating activity of the kidney; in 1904, on cirrhosis of the liver—clinical and experimental study. The Alvarenga prize is annual, 800 francs, for best article on any branch of medicine. Apostoli, 600, annual, on electrotherapy. Baillarger, 2000, 1902 and 1904, treatment of the insane. Barbier, 3000, annual, for a complete cure of affections hitherto considered incurable. Boullard, 1200, 1902 and 1904, for best work on or best results in treatment of mental affections. Bourceret, 1200, annual, circulation of the blood. Buisson, 10,500, 1904, for best discoveries with result of curing hitherto incurable disease. Dupierris, 2300, 1902 and 1904, for best work on anesthesia or affections of urinary passages. Capuron, 1000, sealed, 1902, relations between fibrous tumors of the uterus and pregnancy; 1903, action of saline waters on digestion; 1904, application of radiography to obstetrics. Chevillion, 1500, annual, cancerous affections. Civrieux, 800, annual, sealed, 1902, dementia; 1903, cerebral troubles in sclerosis in patches; 1904, rôle of syphilis in brain disease. Clarens, 400, annual, hygiene. Daudet, 1000, sealed, 1902, cancers; 1903, general medication in treatment of cancers; 1904, surgical treatment of neoplasms of large intestine, rectum excepted. Desportes, 1300, annual, practical medical therapeutics. Falret, 700, sealed, 1902, somnambulism; 1904, neurasthenia. E. Godard, 1000, annual, internal and external pathology. Guzman, income of 1328 francs, for actually effective treatment of organic heart disease. T. Herpin, 3000, annual, epilepsy and nervous affections. Herpin, 1200, sealed, 1902, abortive treatment of tetanus. Itard, 2400, 1903, for best treatise on practical medicine or applied therapeutics published at least two years. Jacquemier, 1700, 1904, for author of work on some obstetric subject which has realized an important progress. Laborie, 500, annual, medical statistics. Laborie, 5000, annual, for author who has materially advanced the science of surgery. Lefèvre, 1800, sealed, 1902, melancholia. Lefort, 300, 1903, study of mineral and drinking waters. H. Lorquet, 300, annual, mental affections. Louis, 3000, 1904, serotherapy of typhoid fever. Mège, 900, sealed, etiology and pathogenesis of arteriosclerosis. Meynot, 2600, annual, affections of eyes and ears. Nativelle, 300, annual, for extraction of hitherto unisolated active principle of some drug. Orfila, 4000, sealed, 1902, alkaloids of belladonna, hyoscyamus and datura. Portal, 600, sealed, 1902, experimental research on inoculation and contagion of cancer; 1903, pathologic anatomy of salpingitis in relation to the causes producing it; 1904, comparative hematologic study of variola and vaccine. Pourat, 700, annual, sealed, 1903, secretions of microbes and their physiologic action in genesis of disease; 1904, circulation of blood in lung. P. Ricord, 600, 1903, venereal diseases. Saint-Lager, 1500, for person who succeeds in experimentally producing tumor of the thyroid by substances extracted from water or soil of countries where goitre is endemic. Saintour, 4400, 1902 and 1904, for best MS. or printed work on any branch of medicine. Stanski, 1500, 1902 and 1904, study of miasmatic contagion in epidemics in general or in a particular epidemic. Tremblay, 7200, 1903, affections of urinary passages. Vernois, 700, annual, hygiene. The Audiffred prize has been mentioned several times in THE JOURNAL. It is an endowed income of 24,000 francs for the person, without distinction of nationality or profession, who, before 1921, discovers a sovereign remedy that will cure or prevent tuberculosis.

Societies.

WATONWAN COUNTY (MINN.) MEDICAL ASSOCIATION.—The annual meeting of this Society was held in St. James, December 11. Dr. Lanson L. McCurdy was elected president and Dr. W. J. McCarthy secretary, both of Madelia.

SAMOSET MEDICAL ASSOCIATION.—The medical fraternity of Plymouth, Mass., met December 19 and organized this Association, with Dr. Wilfred G. Brown as president and Dr. J. Holbrook Shaw, vice-president and secretary.

LANCASTER CITY AND COUNTY (PA.) MEDICAL SOCIETY.—The following officers were elected at the annual meeting: Dr. Martin L. Herr, president; Dr. Park P. Breneman, secretary, and Dr. George R. Rohrer, treasurer, all of Lancaster.

NEW BRITAIN (CONN.) MEDICAL SOCIETY.—The tenth annual meeting of this Society was held January 2, when President Dr. George J. Holmes and Secretary and Treasurer Dr. Joseph B. Brocksieper were unanimously re-elected.

ORANGE COUNTY (TEXAS) MEDICAL SOCIETY.—The first meeting of this Society since its organization was held at Orange. The following officers were elected: Dr. J. Saunders, president; Dr. J. E. Reeves, vice-president, and Dr. M. Rives, secretary.

PHILADELPHIA OBSTETRICAL SOCIETY.—At the annual meeting of this Society, January 2, officers were elected as follows: President, Dr. John M. Fisher; vice-presidents, Drs. Richard C. Norris and Wilmer Krusent; secretary, Dr. Frank W. Talley, and treasurer, Dr. John W. West.

SPRINGFIELD (OHIO) ACADEMY OF MEDICINE.—The annual meeting of the Academy was held January 6. The following officers were elected: Dr. Read L. Bell, president; D. Walter Spence, vice-president, and Dr. Joseph A. Link, secretary. The annual banquet was held January 15.

LOS ANGELES (CAL.) ACADEMY OF MEDICINE.—At the annual meeting of the Academy, held December 27, Dr. Benjamin O. Webb was elected president; Dr. Frances O. Yost, first vice-president; Dr. Frances E. Corbin, second vice-president, and Dr. F. M. Pottinger, secretary and treasurer.

MARION COUNTY (KAN.) MEDICAL ASSOCIATION.—The physicians of Marion County met last month to organize a county medical association. Dr. Richard F. Harris was elected president and Dr. J. Allen Palmer, Florence, secretary. The first regular meeting will be held some time this month.

BELMONT COUNTY (OHIO) MEDICAL SOCIETY.—At the annual meeting of this Society, held recently at Bellaire, Dr. William L. Judkins, Barnesville, was elected president; Dr. J. A. Clark, Glencoe, vice-president; Dr. Alfred C. Beetham, Bellaire, secretary, and Dr. James S. McClellan, Bellaire, treasurer.

LANCASTER CITY (PA.) PATHOLOGICAL SOCIETY.—At the annual meeting of this Society, held December 27, the following officers were elected: Dr. George L. Cassel, president; Drs. William H. Herr and Samuel W. Miller, vice-presidents; Dr. John W. Kinard, secretary, and Dr. Frank G. Hartman, treasurer.

LANE COUNTY (ORE.) MEDICAL SOCIETY.—The members of the regular profession of Lane County met at Eugene, December 21, and organized this Society with the following officers: Dr. William Kuykendall, president; Dr. Waldo L. Cheshire, vice-president, and Dr. John W. Harris, secretary, all of Eugene.

AUSTIN (TEXAS) DISTRICT MEDICAL SOCIETY.—At its annual meeting, held in Austin, December 20, the following officers were elected: Dr. William J. Mathews, Austin, president; Drs. E. Mat Thomas, Georgetown, and Cyrus O. Weller, Austin, vice-presidents; and Dr. W. A. Harper, Austin, secretary and treasurer.

VIGO COUNTY (IND.) MEDICAL SOCIETY.—The annual meeting and banquet of this Society were held at Terre Haute, January 2. Dr. W. E. Bell, Terre Haute, president; Dr. Richard Belt, West Terre Haute, vice-president; Dr. Cassius M. Smick, Terre Haute, treasurer, and Dr. Malachi R. Combs, Terre Haute, secretary.

BOND COUNTY (ILL.) MEDICAL SOCIETY.—The annual meeting of this Society was held at Greenville, January 2, when Dr. E. P. Poindexter, Greenville, was elected president; Dr. John A. Warren, Beaver Creek, vice-president; Dr. William T. Easley, Greenville, secretary, and Dr. W. C. Barnes, Mulberry Grove, treasurer.

MADISON COUNTY (ALA.) MEDICAL SOCIETY.—At the annual meet of this Society, held in Huntsville, January 6, Dr. William D. Pettus, Rep, was elected president; Dr. Felix E. Baldridge, Huntsville, vice-president; Dr. Edgar Rand, Huntsville, secretary and treasurer, and Dr. William C. Wheeler, Huntsville, county health officer.

MANITOWOC COUNTY (WIS.) MEDICAL SOCIETY.—The annual meeting of this Society, held in Manitowoc, January 4, was the most successful session in its history. The following officers were chosen: Dr. William G. Kemper, Manitowoc, president; Dr. Louis Falge, Reedsville, vice-president, and Dr. Herbert Thurtell, Manitowoc, secretary and treasurer.

CANTON (OHIO) MEDICAL SOCIETY.—The annual meeting of this Society was held January 2. Dr. John P. DeWitt was elected president; Dr. Williams, vice-president; Dr. Wallace S. Foulks, recording secretary; Dr. J. Frank Kahler, corresponding secretary, and Dr. Frank Da Hinden, treasurer. Resolutions were adopted in memory of the late Dr. William McConkey.

KANSAS CITY (MO.) ACADEMY OF MEDICINE.—At the annual meeting of the Academy, January 4, Dr. James W. Gaines was elected president; Dr. Charles B. Hardin, vice-president; Dr. George W. Bellows, censor; Dr. John G. Lapp, secretary, and Dr. C. Lester Hall, treasurer. Dr. George W. Webster, Chicago, was the guest of honor at the annual banquet of the Academy, January 9.

ELKHORN VALLEY (NEB.) MEDICAL SOCIETY.—The seventh semi-annual meeting of this Society was held January 7, in Norfolk. The officers elected for 1902 were: Dr. John P. Gilligan, O'Neill, president: Dr. W. S. Summers, West Point, and John J. Williams, Wayne, vice-presidents: Dr. Joseph M. Aikin, Omaha, secretary, and Dr. William H. H. Hagey, Norfolk, treasurer. The Society meets early in January and July of each year.

COLUMBUS (OHIO) ACADEMY OF MEDICINE.—The annual meeting of the Academy was held December 17. The president, in his address, favored the reorganization plan of the State Medical Society which conforms to that of the American Medical Association. The

following officers were re-elected: Dr. James C. Lawrence, president; Dr. Ola S. Hendrixson, vice-president; Dr. John L. Gordon, secretary, and Dr. Francis W. Blake, treasurer.

PHILADELPHIA COLLEGE OF PHYSICIANS.—At a stated meeting of the College of Physicians January 1, officers and elective committees for 1902 were chosen as follows: Dr. Horatio C. Wood, president; Dr. Arthur V. Meigs, vice-president; Drs. Richard A. Cleeman, Arthur V. Meigs, S. Weir Mitchell, and Horace Y. Evans, censors; Dr. Thos. R. Neilson, secretary; Dr. Richard H. Harte, treasurer; Dr. Frederick P. Henry, honorary librarian.

UNION MEDICAL SOCIETY OF NORTHERN MICHIGAN.—This Society, whose membership is made up of the physicians of Ionia, Montcalm and Mecosta counties, held its second annual meeting at Belding, December 10. The following officers were elected: Dr. John Avery, Greenville, president; Drs. Charles S. Cope, Ionia, Leavitt S. Griswold, Big Rapids, William P. Gamber, Stanton, Francis R. Blanchard, Lakeview, and James E. Ferguson, Belding, vice-presidents, and Dr. Horace L. Bower, Greenville, secretary and treasurer.

AMERICAN CHEMICAL SOCIETY.—On December 31, the American Chemical Society adjourned its 25th annual meeting, to meet again in July in Pittsburg, Pa. Dr. Ira Remsen, President of Johns Hopkins, was made president of the Society. In an address describing formaldehyde generators, William Dreyfus, of New York, deprecated the spray disinfection followed in some cities, and argued in favor of the vapor method. At a banquet in the evening Dr. G. H. Meeker was one of the committee of reception. Dr. Wm. McMurtrie, of New York, was one of those responding to toasts.

STEUBEN COUNTY (N. Y.) MEDICAL ASSOCIATION.—The physicians of Steuben County held a meeting in Hornellsville, December 20, to organize an association to be known as the Steuben County Medical Association, which will be a branch of the New York State Medical Association. Dr. John G. Kelly, Hornellsville, acted as chairman. Committees were named as follows; Nomination, Drs. John S. Jamison and Frank H. Koyle, Hornellsville; by-laws, Dr. Victor C. Pederson, Corning. The committees are to report before the next regular meeting to be held at Hornellsville, February 3. The purpose of that meeting is to elect permanent officers and to perfect the organization.

ALPHA KAPPA KAPPA FRATERNITY.—On January 2 and 3 the Alpha Kappa Kappa Fraternity (medical) held its seventh annual convention in Philadelphia. There are local chapters in Jefferson Medical College and the University of Pennsylvania. A memorial service marked the opening session. The convention ended with a banquet at the Hotel Colonnade January 3, Dr. Edward P. Davis acting as toastmaster. The following officers were continued in office: Grand president, Dr. George Cook, Concord, N. H.; grand vice-president, Dr. John I. French; grand secretary, Dr. J. H. Collins; grand treasurer, Dr. Edward R. Pfarre. The next meeting will be held in Chicago, January 2 and 3, 1903.

ST. JOSEPH (MO.) MEDICAL SOCIETY.—The annual banquet of this Society was held December 31. Toasts were responded to by Drs. Jefferson D. Griffith and Blencowe E. Fryer, of Kansas City, and Drs. Jacob Geiger, Thompson N. Potter, Charles H. Wallace, and Wallace B. Deffenbaugh, of St. Joseph. Dr. John M. Bell, president of the Society, acted as toastmaster. The guests of honor on this occasion were Dr. Jefferson Davis Griffith, President of the Missouri State Medical Society, which meets in St. Joseph, next May, and Dr. Blencowe E. Fryer, Chairman of the Committee on Scientific Communications. Both of these gentlemen are sanguine regarding a large and most successful meeting of the State Society at St. Joseph.

MILWAUKEE COUNTY (WIS.) MEDICAL SOCIETY.—The above-named Society has been incorporated without capital stock for "mutual professional advancement and the general good of the medical profession," by Drs. Edwin W. Bartlett, William F. Malone and Selden B. Sperry. The meeting for organization was held in Milwaukee, December 18, at which the need for such an organization and its possibilities were discussed. Dr. Edwin W. Bartlett was chosen temporary chairman, and Dr. Warren B. Hill, temporary secretary. At the first regular meeting, January 2, the Code of Ethics of the American Medical Association was adopted, and the following requirements for admission determined: The holding of a diploma from some regular medical school, a certificate of the state medical society, or a certificate of registration from the state board of medical examiners. The following officers were elected: Dr. Edwin W. Bartlett, president; Dr. Rudolph C. Teschan, vice-president, and Dr. Warren B. Hill, secretary and treasurer, all of Milwaukee.

CHICAGO NEUROLOGICAL SOCIETY.

Stated Meeting, Nov. 21, 1901.

Functions of the Cerebellum.

DR. LEWELLYS F. BARKER, spoke of the functions of the cerebellum, referring to the development of knowledge on the subject and its present status. The views held by Halier, Rolando and Weir Mitchell (cerebellum as a center of muscular energy), by Flourens and Wagner (cerebellum as a center of coördinating voluntary movements), by Gall (cerebellum as a center of sexual passion), and by Lussana (cerebellum as a center for muscular sense) were successively mentioned. The careful studies and experiments of Luciani were taken up in some detail and the opinions of the Italian investigator upon the sthenic, tonic and static action of the cerebellum reviewed; the researches of Ferrier, Schiff, Risien, Russell and Thomas were referred to. The weight of evidence at present is in favor of the view that the cerebellum is above all an organ upon the integrity of which the maintenance of normal equilibrium, under ordinary circumstances, depends.

An analysis of the cases in human beings in which the symptoms seen during life could, as a result of postmortem examination, fairly be referred to atrophy of the cerebellum, shows that the cerebellar symptom—complex as met with in man, corresponds very closely to that producible experimentally in animals.

The structure of the cerebellum was described at some length, the description being couched in terms of the neuron conception. The central neurons of the cerebellum, as well as the cerebellopetal and cerebellofugal conduction paths were discussed. The speaker expressed the opinion that a large part of the confusion existing among clinicians with regard to the nomenclature of nervous diseases depends upon the effort which is so often made to classify diseases according as the lesions accompanying them are distributed chiefly in one or another of the coarser macroscopic subdivisions of the central cerebrospinal nervous system. The time was past, he thought, when we could satisfactorily use the terms, "Diseases of the Spinal Cord," "Diseases of the Cerebellum," etc., as headings under which to group the special diseases. A much more rational classification is that based upon the conduction paths and sets of neuron systems involved in the pathologic process. Thus, diseases in which the systema neuronicum spino-cerebellare dorsolaterale is degenerated affect the cerebellum as well as the spinal cord. The macroscopic subdivisions of the central system are so intimately connected with one another by means of neuron chains that a separation of the diseases of one from diseases of another is, as a rule, futile. When one considers the large number of neuron systems connecting the cerebellum with the spinal cord and rhombencephalon on the one hand and with the cerebrum on the other, the number of possible permutations and combinations as regards lesions is seen to be very great. Why should not the clinical picture presented in different cases of diseases affecting the cerebellar neurons be extremely variable? The wonder is not that we have different types of disease which are somewhat closely allied to one another; it is much more that the clinical pictures presented in the various cases are so much alike as clinicians assert that they are. Possibly, when our methods of clinical differentiation have become more refined, we shall be able to speak more confidently than we can at present with regard to the exact neuron systems involved in a given case, or series of cases.

Hereditary Cerebellar Ataxia, with Report of a Case.

DR. HUGH T. PATRICK said the affection was introduced into the nosology of nervous diseases by Marie, in 1893. He based his assertions of a clinical and pathologic entity upon cases reported by Fraser, Nonne, Sanger Brown, and Klippel and Durante. Dr. Patrick showed that while there was some resemblance between all of these cases and each group remained reasonably constant to its own type, they did not sufficiently agree either in clinical manifestations or pathologic anatomy to constitute a well-defined type. A brief review was given of cases published since 1893, and the same lack of adherence to a fixed type clearly illustrated. Microscopic examination of cases subsequent to the paper of Marie have tended to disprove rather than prove his claims that the pathology of the disease is found in atrophy of the cerebellum, the most striking changes having been found in the cord, in the shape of combined sclerosis very similar to that of Friedreich's disease. The author's own case was the second in the same family and presented, in addition to the signs said to be those of hereditary cerebellar ataxia, marked mental deterioration. Dr. Patrick thought that the whole group of cases including Friedreich's disease, the group selected by Marie and similar cases reported by others, should be considered as related to each other and dependent upon degeneration of several tracts, both afferent and efferent, having to do with the function of the cerebellum.

DR. SANGER BROWN agreed with Dr. Patrick in asserting that Marie was not warranted in making the statements that he did; still, in taking a broader view of the subject, and in accordance with the theory advanced by Dr. Barker, it was not a bad designation to refer to this disease as hereditary cerebellar ataxia. Marie was perhaps warranted in saying that in this disease the functions of the cerebellum were conspicuously

involved. Whether the incoördination means an involvement of the cerebellum, he did not know definitely, but that was the popular idea entertained by the profession. He thought there was a marked difference clinically between the series of cases that he reported and the series first reported by Friedreich, particularly as to the onset and progress of the disease, and that it was well to make a clinical distinction. There might be a variety of types of the disease in certain families; that is to say, certain parts of the central nervous system would show at a certain age defects, and he did not think the time had come when it was safe to classify these lesions under very hard and fast lines.

Referring to the remarks of Dr. Barker, it was well established that the functions of the cerebellum, judging from experiments upon animals, could be vicariously performed fairly well. If certain neurons connected with the cerebellum undergo injury or degeneration, if the disease was limited to particular neurons, or if the cerebellum was mainly at fault, the patients would not become progressively more and more ataxic. In the series of cases reported by the speaker, the patients became progressively more and more ataxic. They became somewhat weak, but if they could use other parts of the nervous system, they certainly had years to get over that particular defect, but they became steadily worse.

Regarding the case of Dr. Patrick, he agreed with him in many respects, although he was impressed with what James Collier and someone else stated in *Brain* some three or four years ago, in an elaborate report on diplegia, in which was reported a case similar to the one detailed by Dr. Patrick; only the cerebellum did not seem to be atacked so markedly in their case. He thought it could be classified with other cases, if it was assumed that the functions of the cerebellum were more markedly disordered, or that the degeneration extended to the cortex of the cerebellum as well as the cerebrum.

DR. SYDNEY KUH pointed out some slight discrepancies which exist between the results of experimental work as to the functions of the cerebellum and clinical experience. The results of experiments would seem to show that the tendon reflexes are exaggerated after injuries to the cerebellum. It was known from clinical experience that there is no localization of a lesion within the cranial cavity which is so frequently associated with loss of the deep reflexes as a cerebellar lesion.

As to the influence of the vermis, when he studied medicine he was taught that any part of the cerebellum might be destroyed without the manifestation of any symptoms, with the exception of the vermis. He had had occasion to examine the cerebellum of a patient who had been under the observation of Professor Vierordt and his assistant for physical diagnosis. The patient was an old man, who came complaining of violent pain, and upon examination they found a tumor of the liver. The patient's age and appearance justified a diagnosis of carcinoma of the liver. Patient was under observation and treatment for a long time. He was perfectly safe in stating that no such symptom as cerebellar ataxia or any gross nervous symptom could have been overlooked by these two gentlemen. The patient was treated with hypodermics of morphin. The case seemed absolutely hopeless, and nothing but symptomatic treatment was possible, and after one or two doses of morphin the patient became comatose, and died. Postmortem examination revealed, instead of carcinoma of the liver, secondary to a supposed carcinoma of the stomach, a large angiosarcoma of the liver. On opening the cranial cavity an angiosarcoma of the cerebellum was found. The tumor had destroyed practically everything of the vermis superior, the layer covering it being hardly any thicker than an ordinary card. It did not seem to the speaker that very much of the function of that portion of the nervous system was preserved. It is true, the tumor, as it appeared at the postmortem, was undoubtedly larger than it had been a short time before the patient's death, because death was largely due to hemorrhage into the tumor.

He was particularly pleased to hear what Dr. Barker had to say regarding the present classification of nervous diseases. Even if we knew nothing about the neurons, or the anatomy of the nervous system, clinical experience alone should have taught members of the profession long ago that there is no such thing as peripheral, spinal or cerebral disease, and in spite of the anatomic researches extending back to the time when physicians hardly dreamed of a neuron that showed involvement of the nervous system in certain diseases, they are still classified in the same way.

DR. DANIEL R. BROWER said it was impossible to make fine distinctions between several forms of hereditary cerebellar ataxia. However, this was still being done by some neurologists. He reported at his clinic at the County Hospital a year ago a case that manifested certain symptoms suggestive of hereditary cerebellar ataxia, for the reason that the cerebellar connections were in some manner interfered with. It was not an ordinary case, inasmuch as the reflexes were so exaggerated, the eye symptoms pronounced, and the gait more like the gait attributed to cerebellar disease; therefore, he called the case one of cerebellar ataxia.

DR. ELBERT WING agreed with Dr. Barker in regard to the nomenclature of diseases. Physicians had been too exact in giving names to diseases, and in describing exactly the different pathologic locations. A classification such as Dr. Barker had alluded to was necessary in clinical work. The old classification would be gradually abandoned, as more definite knowledge was obtained.

DR. HUGH T. PATRICK said, in referring to the paper of Dr. Barker, that five or six years ago in writing an extended review of a monograph on hereditary cerebellar ataxia, he tried to express the same views that were presented by Dr. Barker, but did not do it so well, in that he tried to say, in all probability, the various diseases, including Friedreich's disease, were caused by progressive degenerative changes in nerve structures which were associated in function, and that the inception of the disease would vary in accordance with the particular set of neurons first involved. The clinical picture varied in accordance with the direction in which the disease progressed, and its extent. This was the conception which is taken now of a variety of cases including those in which the mental deterioration is considerable.

DR. BARKER stated, in connection with the progression of the symptoms in the cases suggested by Dr. Brown, beginning in youth, that the cerebellar disease ought to be compensated for largely by the vicarious activity of other parts. It must be assumed that disease is not stationary, and that, in all probability, group after group of neurons becomes involved, and those standing nearest in function and relation are most likely to assume vicarious function. He agreed with Dr. Wing in regard to attempting to localize or ascribe things exactly to one organ. On the other hand, he believes we will not be far wrong in attempting to localize diseases more exactly than we have heretofore by systems of neurons and conduction paths. An effort should be made in every case to correlate the clinical symptoms with changes in the neuron systems. If it is said that such and such neuron systems are involved, and such others are intact, then make careful autopsies and study the pathology from the same standpoint, and data would be accumulated which could not be obtained by present methods.

DETROIT MEDICAL SOCIETY.

Meeting held Wednesday, Dec. 4, 1902.

Ectopic Gestation.

DR. F. B. TIBBALS, in this paper, considered the etiology, classification and diagnosis of that condition, and reported four cases.

CASE 1.—Mrs. L., a young bride of but a few months, was first seen when suffering from a sudden attack of acute colicky pain in the right inguinal region. Bimanual examination negative. There was a history of menstrual irregularity with occasional passage of clots or decidua shreds. The attack subsided very quickly, but about ten days later recurred, and again a week later. At the third attack she was removed to Harper Hospital for an operation, which was made on the evening of August 5, 1899. She went on the table with a pulse under 90, showing that no dangerous hemorrhage was going on. Operation showed a pregnant right tube ruptured only enough to allow a slight hemorrhagic ooze. The patient made an ideal recovery.

CASE 2.—Mrs. C., married two years, thinks she miscarried a year and a half after marriage. The essayist was called on March 12, 1900, and found her in collapse from severe abdominal pain of very sudden onset. The shock was profound, although the pulse showed no hemorrhage. She had gone two weeks beyond her period, and considered herself pregnant. On March 22 Dr. Tibbals was again called in haste, to find a repetition of the former attack, plus a rapid pulse, showing internal hemorrhage. Within an hour she was operated on, the pulse being 140. The abdomen was filled with blood from a completely ruptured left tube, which was rapidly clamped and removed, the cavity cleaned out as thoroughly as was consistent with the condition of the patient, who had lost much blood. She was transfused, the colon filled with saline solution, and other means of stimulation freely used, and in a few hours she was out of danger. Recovery was uninterrupted. In the light of added experience the Doctor now feels that he should have diagnosed these cases positively at the first attack, by the typical symptoms alone, without waiting to confirm my suspicions by the actual feel of the enlarged tube.

CASE 3.—Mrs. D., aged 35, one child of 7 years; when first seen on the afternoon of Feb. 22, 1901, she gave a history of menstrual irregularity since about Christmas time, and of two recent attacks of sudden shock and pain indicative of tubal rupture. A localized peritonitis existed with large infiltration on the right side of uterus, and a condition generally septic. She entered Harper Hospital that evening, it being evident that she would die from sepsis unless something could be done. On February 25 Dr. Tibbals opened the cul-de-sac, washed out a large quantity of foul broken-down blood, removed the right ovary and tube—the latter ruptured but not bleeding—and packed and drained thoroughly. After twenty-four hours, however, a general peritonitis developed, from which she died on March 2. This patient would doubtless have been saved by an early diagnosis and operation.

CASE 4.—Mrs. N., aged 35, married seventeen years, three children, one miscarriage four years before; consulted the essayist on April 13, saying that although her March period was on time she had continued to flow at intervals since. Examination disclosed no cause in the uterus for the irregularity of flow. He prescribed ergot and viburnum, and sent her to bed; she was not seen again until May 4, and then several times during the two weeks following. The flow continued at intervals, and in varying amount, never being entirely absent for more than a few days. She had no nausea, breast changes, pain or passage of decidua shreds, and did not believe herself pregnant, since her last intercourse was late in January, her February flow was normal, and her March flow was on time, though abnormal. The only diagnostic point of value was the irregular flow without apparent cause, until, within the last two weeks, he was able to detect an enlargement in the left pelvis, which he considered to be a tubal pregnancy, and urged operation, which he performed on May 24, at the Detroit Sanitarium. The left tube was found pregnant, unruptured, free of adhesions, and was quickly removed, and a happy optimistic prognosis concurred in by all present.

The personal equation of the patient, however, must always be considered in surgical work, and in this case clouds of gloom quickly hid the sunshine of egotistical pride in a good diagnosis and successful operation. The patient was an extremely nervous neurasthenic, and during her thirty-six hours of preparation in the hospital suffered much in anticipation of the coming operation. After one nearly sleepless night a violent thunderstorm during the evening before operation induced a sharp attack of fermentation in stomach and upper intestines, and she passed the night in great distress, belching gas in large amounts. The fear of rupture impelled the writer to go on with the plans for operation, but the pre-existing gaseous distension caused her death. The first two cases illustrate admirably the typical symptoms; the third case the hazard of delayed diagnosis; the last case the fortunate opportunity for diagnosis before rupture, as well as the uncertainties of surgery.

Meningitis Following Suppurative Otitis Media.

DR. H. W. YATES reported the case of a girl aged 12, of good physique and family history. In May of the present year she had a suppurative otitis media from which she apparently recovered. From this until Monday, last week, she was in good health. She complained then of slight earache on right side. On Tuesday the pain in the right ear had ceased, but the left one gave her trouble. This pain alternated between the right and left ears until Friday, when it was entirely relieved, only to be followed by an intense frontal headache. At this time I was called to see her. She had a temperature of 102, pulse 120; skin was dry and tongue coated. No appreciable change occurred in the pulse other than its frequency. The impression given at the bedside was one of the ordinary type of intestinal toxemia with its resultant cephalgia. The essayist prescribed one of the coal-tar products for the relief of her headache and calomel as an eliminative. No more was heard from her until the following noon, Saturday, when he was called on account of severe headache. On arrival at 4 p. m. nothing more was discernible than on the previous day, with the exception that she laid with her eyes closed and apparently suffering intense pain, while her temperature had fallen to 101, and the pulse to 96. Owing to the severity of the pain, her unfavorable environment, coupled with suspicion of meningitis, he had her removed to the hospital. Her condition remained much the same until the following morning, when she developed slight paroxysms on one side, the central disturbance increasing until the left side became semi-paralyzed. The pulse now showed an appreciable change for the worse until she died, at 2 p. m.

On postmortem little was to be learned except that the pia mater was engorged apparently to its fullest extent, and there was considerable tension over the cerebral hemispheres. No abscess could be found, but with the highly injected condition of the pia mater it was concluded that an infective leptomeningitis was the cause of the fatality.

This case shows none of the classical symptoms of meningitis, such as chill, fever, hyperesthetic skin, muscular spasm, disturbances of the special centers, ptosis, strabismus, irregularly contracted pupils, or Cheyne-Stokes respirations; yet with the forerunning history of otitis media in the early spring, together with the initial pain in the ears during her fatal illness, it would seem that an abscess of the middle ear had been provocative of the fatal result.

NEW YORK ACADEMY OF MEDICINE.

Meeting held January 2, 1902.

Vice-President Dr. Charles L. Dana, in the Chair.

The Need of Sanatoria for Tuberculosis.

DR. G. L. PEABODY, in the opening paper on this subject, called attention to the greater advances along this line that had been made in Europe, and said that it had been estimated that 75 per cent. of the cases of tuberculosis that had been restored to health had been through the medium of sanatoria. All agreed that life in the open air was essential, and that a climate was required in which there were not sudden and great changes of temperature. Alcohol and changeable weather were powerful factors predisposing to tuberculosis.

DR. S. A. KNOPF said that the statistics of the last fifty years seemed to indicate that tuberculosis had decreased about one-third, and this, he declared, had been largely brought about by sanatorium treatment. Touching upon the recent effort to exclude from this country all tuberculous immigrants, the speaker said that if we were going to exclude all consumptives coming here from other countries, these nations might retaliate. Dr. Knopf then introduced the following resolutions, which, under the rules, could not be acted upon until the next meeting of the Academy:

WHEREAS, The Treasury Department of the United States, upon recommendation of the Surgeon-General of the Marine Hospital Service, has recently decided to classify tuberculosis as a dangerous contagious disease, thereby placing a stigma wholly undeserved upon every American citizen who is suffering with consumption, be it

Resolved, That the Academy considers the exclusion of non-pauper tuberculous immigrants and tuberculous aliens visiting our shores, unwise, inhumane and contrary to the spirit of American justice; and, be it further

Resolved, That while the Academy upholds the fact of the communicability of tuberculosis, and urges all possible precautions

against the spread of the disease from sputum and other tuberculous secretions or from ingestion of tuberculous food substances, the Academy is opposed to all measures by which additional hardship is imposed upon the consumptive individual, his family or his physician.

DR. HENRY P. LOOMIS graphically described the pitiable wanderings of the poor consumptives from one hospital to the other, and declared that what the city needed at once was a large hospital where all the consumptives could go as soon as they needed hospital care, and where they might receive systematic and continual oversight. He believed that, even in such a hospital, the number of cured cases would be a surprise. On economic grounds the taxpayers should demand such an institution, and the profession should see to it that a public sentiment was created which would make the opening of such a hospital imperative. Fortunately, the city would not have to wait even for the erection of a building, for at present there stands empty, on Ward's Island, a city hospital capable of accommodating 400 patients. Dr. Loomis estimated that there were between 20,000 and 25,000 cases of tuberculosis in New York City. Out of the 427 medical cases admitted to Bellevue Hospital in December, 138 were cases of tuberculosis, or about one in three.

DR. J. EDWARD STUBBERT, Liberty, N. Y., spoke of the advantages of sanatorium treatment, not only in the way of diagnosis and treatment, but as a means of educating the patients so that they became teachers of hygiene on returning to their former homes. Speaking of the chances of recovery, he significantly divided cases of tuberculosis into two classes, the careful and the careless.

DR. W. FREUDENTHAL favored the purchase of tracts of farm land and the establishment of tent colonies. Under such conditions the disease was most apt to be arrested, and by giving the patients work on the farm they were kept occupied and contented, and did not find it necessary when half cured to go back to live and work in crowded cities.

DR. E. H. M. SELL insisted that tuberculous patients, after the arrest of the disease, should continue to live in the climate in which they had been restored to health.

DR. E. G. JANEWAY thought that those who had observed the wonderful beneficial influence of a suitable climate upon tuberculous patients would be loath to argue in favor of the treatment of consumption in the city. Sanatoria might be established in the country for incipient cases, and hospitals provided in the cities for more advanced cases of the disease.

Drs. Leonard Weber, Alfred Meyer and Louis Faugères Bishop spoke in favor of the establishment by the city or State of sanatoria for consumptives, and Dr. A. Jacobi pointed out the utter brutality of telling a poor consumptive, who was unable to procure needful food and comforts, that it was absolutely necessary for him to go to Colorado if he would be cured.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held Dec. 18, 1901.

DR. GEO. ERETY SHOEMAKER, in the Chair.

The Shock of Intra-Abdominal Operations, Its Pathology, Prevention and Treatment.

DR. LOUIS S. MCMURTRY, Louisville, Ky., defined shock as a neurosis resulting in an inhibition of the vital functions, affecting especially the vasomotor system. As to causation of shock, prolonged and extensive exposure and rude manipulation of organs, and hemorrhage, were cited as predominant factors. The importance of special prophylactic treatment of a weak patient was emphasized—such treatment to include active feeding with bland nutritious liquid, administration of strychnia, and enteroclysis of saline solution. Careful anesthetization with ether, careful maintenance of bodily heat, prompt arrest of all hemorrhage, the shortest abdominal incision, and the least and gentlest manipulation practicable, quick and dextrous operation, were all urged.

DR. JOSEPH PRICE compared some of the results of the early operators with those of the later surgeons.

DR. JNO. G. CLARK referred to the conclusion reached by Hodges, in his investigations, that in serious shock the vasomotor nerves undergo pathological changes, but temporary, if reaction occurs. Clark believes the toxic effect of the anesthetic often to be a strong causative factor of shock.

DR. DEFOREST WILLARD made a plea for better guarding the patient from loss of heat upon the operating table. He believes the electric mattress useful for this purpose.

DR. JNO. B. DEAVER pointed out that patients frequently suffer shock because of delay of operative interference and sepsis depressing the vital powers before operation. He therefore strongly urges early interference in cases demanding operation. In treating shock, he depends much upon camphorated oil, atropia and intravenous injection of saline solution.

DR. EDWARD MARTIN referred to tests he had made to determine the quantity of blood-loss in operation. By weighing the sponges, he determined that the quantity of blood lost is often underestimated. He also believes that Crile's experiments suggest the probability of cocain being a preventive of shock, and that atropia and strychnia are distinctly serviceable. Deaths that he has seen have been from respiratory failure, hence the value of artificial respiration. He believes that the intravenous injection of saline solution sometimes causes congestion because of the sudden great increase of circulating fluid, while hypodermoclysis—the fluid being drunk up as the tissues need it—is invaluable.

DR. ERNEST LAPLACE defined shock as a "depression, because of an impression." The speaker pointed out that in operative or other traumatic shock there is accompanying anemia of the brain, with the notable exception that in direct injury of the brain itself there is cerebral congestion with full bounding pulse.

Following the meeting, an informal reception to Dr. McMurtry was given at the University Club.

At the same meeting a resolution was adopted strongly disapproving, as a Municipal Hospital site, of a plat of ground on the Delaware River front, which Councils have under consideration. The place is difficult of access, the ground marshy, in proximity to fertilizing factories, and most unsanitary. The resolution provided also for a committee of five to inspect sites proposed for the Municipal Hospital and to report to the Society regarding their fitness.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, IX.

(Continued from page 126.)

Pharmaceutical Incompatibility (Continued).

As a rule water is the best solvent for gelatinous, gummy and saccharin bodies and for a great number of inorganic salts; but all drugs containing the volatile oils and resins, gum resins, resinoids and balsams as their active principles, are best dissolved in alcohol. It might be well to add that the solvent power of either alcohol or water decreases in direct proportion to the amount of the other added.

Glycerin makes a good solvent for bodies which are soluble in both alcohol and water, and may be in some cases more preferable than alcohol. It is regarded as a superb solvent for sodium borate, boric acid, tannic acid, gallic acid, creosote, bismuth subnitrate, amylum and iodin.

As stated by Scoville, there are methods which may be employed to remedy or prevent some of the physical incompatibilities that might otherwise arise, but as these come in the rôle of the pharmacist they need be only enumerated in summing up the foregoing statements:

1. By order of mixing.
2. By keeping the alcoholic strength within certain limits.
3. By using different solvents.
4. By suspending in emulsions.
5. Remembering that the three great solvents are water, alcohol and glycerin in the order mentioned.

The following prescriptions illustrate pharmaceutical incompatibilities resulting from certain combinations:

℞. Tinct. benzoini comp.
Tinct, cardamomi comp., āā.....ʒi 30

M. Sig.: One teaspoonful after each meal.

The tinctura benzoini composita is made from a strong alcoholic menstruum while the cardamon preparation is made from a dilute alcoholic solution; consequently the resin in the first preparation would be precipitated.

℞. Oleoresinæ cubebæ .....ʒii 7|50
Aquæ .....ʒii 60

M. Sig.: One teaspoonful after each meal, in water.

The oleoresin of course is insoluble in water, so that this prescription would be incompatible. In this case suspension of the oleoresin in an emulsion by adding one or two drams of acacia to the above would correct the incompatibility.

℞. Tinct. gentianæ comp. .....ʒii 60
Syrupi simplicis .....ʒii 60

M. Sig.: One teaspoonful three times a day.

As has been already stated the compound tincture of gentian, which is made from stronger alcohol, will cause the sugar to crystallize.

℞. Olei juniperi .....ʒi 3|75
Aq. menthæ pip. q. s. ad.....ʒiii 90

M. Sig.: One teaspoonful four times a day.

In the foregoing prescription the oil in the juniper would be thrown out of solution and rise to the top of the mixture, because of the vehicle used.

℞. Extracti grindeliæ rob. flu. .....ʒi 30
Aq. destil. q. s. ad. .....ʒii 60

M. Sig.: One teaspoonful three times a day.

The resinous principle would be thrown out of solution on account of the water weakening the alcoholic fluid extract of grindelia.

℞. Potassii iodidi .....ʒi 30
Aquæ menthæ viridis .....ʒi 30

M. Sig.: Take ten drops after each meal and increase one drop every other day.

In this case the aqua menthæ is a saturated solution of the oil, so by saturating it with the potassium iodid salt, which is very soluble, the oil would be thrown out of solution and cause the mixture to become cloudy.

℞. Magnesii sulphatis .....ʒi 30
Ext. taraxaci flu. .....ʒi 30
Aquæ q. s. ad .....ʒiv 120

M. Sig.: One or two teaspoonfuls upon rising in the morning.

The soluble magnesium sulphate would in this case be precipitated by the alcoholic fluid extract in the mixture and the resins in the fluid extract would be precipitated, demonstrating the law that the more soluble a body is in water the less so in alcohol, and vice versa.

℞. Chloralis hydratis .....ʒii 7|50
Camphoræ .....gr. xxiv 1|65

M. Sig.: One powder at bedtime.

By triturating these preparations together they would liquefy and consequently powders could not be made.

Attention has been called to a prescription upon a druggist's file which contained the following physical incompatibles:

℞. Ext. leptandræ flu. .....ʒv 18|75
Ext. cannabis indicæ flu. .....ʒss 1|88
Ext. ergotæ flu. .....ʒiv 14
Syr. lactucarii .....ʒss 15
Aq. destil q. s. ad .....ʒiii 90

M. Sig.: One teaspoonful four times a day.

In the above the resinous principles of the first two fluid extracts would be precipitated by the water given as the vehicle.

(To be continued.)

Atropin in Acute Pulmonary Edema.

Acute pulmonary edema demands very prompt and vigorous measures for its relief. Dr. C. Donovan, in *Amer. Med.*, recommends strychnin gr. 1/50 with atropin gr. 1/100 to be injected beneath the skin just below the clavicle, in order that it may reach the heart sooner. The evidences of good results thus obtained are shown by the skin becoming moist and warm, the breathing deeper and less frequent, and the suffocation relieved. If the pulse shows indications of good strength, one injection will be enough; otherwise he recommends additional doses of strychnin to stimulate the heart.

Where high arterial tension is present and the heart's action strong the atropin may be given in combination with nitroglycerin and morphin. He states that the atropin should show its effects physiologically upon the pupil of the eye. He usually begins with gr. 1/100 and repeats the dose at intervals of one hour until the desired results are obtained.

Treatment of Carbuncles.

Wm. Wormley, in *New York Med. Times*, recommends the use of tonics such as iron, arsenic and quinin. The following prescriptions are employed by him very frequently:

℞. Potassii iodidi .....ʒss 1|88
Ferri pyrophosphatis .....ʒi 3|75
Syrupi
Aquæ, āā.....ʒii 60

M. Sig.: One teaspoonful diluted in water after meals.

Gross, according to his statement, recommends the following as a cover for the carbuncle, first painting it with tincture of iodin:

℞. Olei terebinthinæ
Olei olivæ
Tinct. opii, āā.....ʒss 15

M. Sig.: Apply locally.

The foregoing is regarded as an antiseptic, destroying the cocci if they are not too firmly established in their location. The following is sometimes used:

℞.Tinct. arnicæ flor.....ʒi 3|75
Acidi tannici
Pul. acaciæ, āā.....ʒss 1|88

M. Sig.: Paint over the carbuncle every fifteen minutes until a thick coat is formed.

Salicylates as Antiseptics in Pneumonia.

Sebring, as noted in *Prog. Med.*, states that he treated a series of seventy-five cases of pneumonia with but one death. He administered 120 grains of the salicylates daily as a routine treatment.

Pruritus and Fissures of the Anus.

Dr. W. C. Black, according to *Merck's Archives*, states that the following treatment is successful in severe cases of pruritus ani, especially those complicated with fissures. The sphincter ani is stretched until there is complete relaxation, and the mucous membrane within the sphincter is painted with the following:

℞. Ichthyol
Glycerini, āā.....ʒi 31|1

M. Sig.: Apply locally.

He states that this treatment has proved in his hands more successful than any other remedy or method that has ever been recommended. Recently he has had good success with ichthyol injected in full strength, just within the sphincter, twice or three times a day.

Medicolegal.

Unpatentable Devices for Treatment of Disease.—A patent can not be lawfully granted, the United States Circuit Court of Appeals holds, in the case of Mahler vs. the Ammarium Company, when it appears that the claim preferred by the patentee that he has made a discovery of a new fact or principle in medical science, and of a new mode of operation of a known force whereby the discovery is utilized, rests upon no substantial foundation, and is at best an imaginary hypothesis, and was most likely put forward merely to obtain a patent on a device which he proposes to make and sell to the public for the treatment of disease. The granting of a patent under such

circumstances, the court declares, would give to the theories enunciated in the specification an appearance of authority, and tend to mislead and deceive the public if the theories are false.

Exhumation and Autopsy Months After Death.—Complaint was made in Hayes vs. State of Wisconsin, a homicide case, of the admission of the testimony of a physician as to the result of a postmortem examination made by him of the remains of the deceased some months after death, without notice to the accused. But the Supreme Court of Wisconsin says that it knows of no law that requires notice to the accused in such cases. The disinterment and examination was under the direction of the proper authorities, and in furtherance of public justice. The statute against disinterments was not intended to apply to exhumations made by public officials with a view of ascertaining whether a crime has been committed. The objection that the evidence was inadmissible because of the length of time that had elapsed went rather to its weight than its competency. The doctor testified that the body was not so far decomposed but that he was able to discover knife wounds in the back, and the presence of blood in great quantity in the chest cavity. It was for the jury to determine whether the proof was of sufficient weight to satisfy legal requirements.

Injury Followed by Quick Consumption.—In the case of Hoey vs. the Metropolitan Street Railway Company, Mr. Justice Russell holds, at a trial term of the Supreme Court of New York, that a jury having found that tuberculosis caused a person's death, the bare possibility that his frame, weakened by an injury sustained nine or ten months previously, succumbed more readily to the new disease, was insufficient upon which to rest a finding to the effect that he would not have died at the time he did but for the injury, or that the latter was the cause of his death. True, aid was afforded to the jury and the court to link the accident to the death by the opinions of eminent physicians upon the assumed facts that a disease called "progressive muscular atrophy" caused the death by shattering the system, and thus exposing it to sudden disease. But all of the physicians substantially agreed that tuberculosis was produced in the lungs by the inhalation of the germs from the atmosphere, and, accepting this view, it is said that it must be regarded as a conclusive fact that the man died from consumption immediately produced from the inhalation of bacilli, and not produced by a blow over nine months before his death.

Privilege Under North Carolina Law.—The Supreme Court of North Carolina says, in Fuller vs. Knights of Pythias, that at common law there is no privilege extending to the relation between patient and physician. The privilege between patient and physician created by the North Carolina statute of 1885 is less stringent and more lax than that of the common law between attorney and client. As between the latter, the attorney's mouth is sealed for all time (except by consent of the client), and he can not be compelled by the court to testify; while under the statute referred to it is provided that the judge, in furtherance of the administration of justice, may compel the physician to disclose the information acquired by him from his patient. The language of the statute is, "No person duly authorized to practice physic or surgery shall be required to disclose any information which he may have acquired in attending a patient in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon: provided that the presiding judge of a superior court may compel such disclosure if in his opinion the same is necessary to a proper administration of justice." Under these circumstances, the Supreme Court holds that a waiver in an application for life insurance was good and binding upon the beneficiary, and that the judge of the Superior Court erred, in this case, in excluding the testimony of the physician as to knowledge and information acquired from the deceased, who had made the waiver, while attending him professionally.

Court Can Not Supplant Board of Medical Examiners.—In the case of State ex rel. State Board of Medical Examiners vs. First Judicial District Court of Montana, it appeared that an applicant for a certificate to practice medicine was detected in the use, during his examination, of certain notes and memoranda to aid him in answering the questions propounded, and was thereupon denied the privilege of continuing the examination. A charge was preferred to the board by its secretary, accusing him of "unprofessional, dishonorable, and immoral conduct," the specification being that he had been detected in the use of said notes and memoranda for the purpose stated. After written notice, and an examination by the board into the facts, he was found guilty, and refused a certificate. He immediately appealed to the District Court, and thereupon applied to it for an order permitting him to engage in the practice of his profession until a hearing could be had upon the merits, and the judge, after requiring him to submit to an examination in open court as to his qualifications, made such an order. Was this within the power of the court? The legislature of the state has deemed it proper, in a case where a certificate has been revoked, to authorize the courts, in their discretion, to grant the appellant permission to practice pending his appeal, but it is silent as to the power of the court in cases in which the board has refused a certificate. Under these circumstances, the Supreme Court of Montana holds that it was not within the power of the District Court to make the order mentioned. It says that the prohibition directed to the individual citizen against practicing medicine until he has been examined by the lawfully constituted authorities and declared sufficiently qualified is as much a limit to the power of the court as if it had been expressly provided that the court should not grant permission to pursue the practice pending appeal in this class of cases. It sees a difference, too, in granting the right to practice medicine pending an appeal between such a case as the legislature has provided for and that here under consideration. In the former, it says, the conditions precedent have all been fulfilled. The party's right has accrued. He has, perhaps, by his energy and application, built up a profitable practice. It is the means of support for himself and family. This should not be taken away without good cause. It is, therefore, but just that he be permitted to exercise his right until it is finally adjudged that he has forfeited it; especially so, if it is made to appear that the forfeiture has been declared upon doubtful evidence, or from bad motives on the part of the board. But in the case of an applicant for a certificate in the first instance no such reason exists. No right has been established. No practice depends upon his attention. He will suffer no immediate material injury if the certificate be withheld for a reasonable time until he can demonstrate that the action of the board in denying it was arbitrary or erroneous. The burden is upon him to establish his right. In the other case the burden rests upon the state represented by the medical board.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine (Philadelphia), January 4.

1 *Note on the Fever of Hodgkin's Disease; Recurrent (Rückfall) Fever; Ebstein's Disease. J. H. Musser.
2 *Preliminary Notes on the Virulence of the Bovine Tuberculosis Bacillus for Monkeys, and the Effect of Tuberculins Made from Tuberculosis Bacilli Derived from Different Animals. E. A. de Schweinitz and E. C. Schroeder.
3 Triple Ectopic Gestation. Wilmer Krusen.
4 *The Therapeutic Value of Hypnotism. Charles W. Burr.
5 *The Personal Elements of Error in Therapeutics. George F. Butler.
6 Practice Office Methods of Diagnosis, with Special Reference to the Roentgen Ray. A. W. Crane.
7 A Case of So-called Malignant (Staphylococcus) Carbuncle of the Upper Lip, Followed by Pyemia. Wm. B. Wherry.
8 Address to Nurses. George Melville.

Medical Record (N.Y.), January 4.

9 *The Trial, Execution, Autopsy, and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
10 *The Postmortem Examination of Leon F. Czolgosz. Edward Anthony Spitzka.
11 A Case of Facial Hemiatrophy. Louis F. Frank.

Boston Medical and Surgical Journal, January 4.

12 *Cases of Rupture of the Spinal Ligaments. Charles F. Painter and Robert B. Osgood.
13 *The Treatment of Placenta Previa. Frank A. Higgins.
14 *Privileged Medical Communications. Arthur H. Nichols.
15 *Traumatic Apnea or Asphyxia. H. L. Burrell and L. R. G. Crandon.
16 *Rendering First Aid in Railroad Wrecks. Lucien Lofton.

New York Medical Journal, January 4.

17 The Etiology and Treatment of Bright's Disease. John Winters Brannan.
18 Clinical Notes on Gleet. (To be concluded.) A. Ravogli.
19 *Round Ligament Ventrosuspension of the Uterus; Improved Technic. D. Tod Gilliam.
20 Gelatinous Carcinoma of the Peritoneum, with Metastases in Sternum and Lung. Philip King Brown and George T. Brady.
21 *The Trial, Execution, Autopsy, and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
22 *The Postmortem Examination of Leon F. Czolgosz. Edward Anthony Spitzka.

Philadelphia Medical Journal, January 4.

23 *The Propagation of Yellow Fever by Mosquitoes. W. C. Gorgas.
24 *Rheumatic Fever and Its Counterfeits. Dyce Duckworth.
25 *The Trial, Execution, Autopsy and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
26 *The Postmortem Examination of Leon F. Czolgosz. Edward A. Spitzka.

Medical News (N. Y.), January 4.

27 *Sanitary Aspects of the Panama and Nicaragua Canals. George A. Soper.
28 *The Trial, Execution, Autopsy, and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
29 *The Postmortem Examination of Leon F. Czolgosz. Edward A. Spitzka.
30 *A Report of 45 Unpublished Cases of Hemorrhage Treated by the Internal Administration of the Suprarenal Capsule. Samuel Floersheim.
31 *Hysterical Hemiplegia Treated by Suggestion, with Report of a Case. Henry L. Winter.
32 *On the Absorption of Alexins by Tubercle Bacilli. P. A. Levene.

Cincinnati Lancet-Clinic, January 4.

33 *An Important Factor in Cerebral Neuralgia, Indigestion and General Neurasthenia. James H. Buckner.
34 Pseudo-Specialists. Edmund C. Brush.

St. Louis Medical Review, January 4.

35 Annual Report of the St. Louis City Hospital. H. L. Nietert.

Pediatrics (N. Y.), Dec. 15, 1901.

36 The Early Care of the Deaf and Dumb. W. B. Drummond.
37 Scarlatinal Nephritis and Its Treatment. F. Huber.
38 Special Clinical Demonstration at the New York Post-Graduate Medical School. A. Caille.
39 The Relative Importance of Diseases of the Heart Muscle and the Heart Valves. Louis F. Bishop.

Pediatrics (N. Y.), January 4.

40 On the Mental Hebetude or Stupor of Pulmonary Congestion and Pneumonia in Children. Arthur DeVoe.
41 Methods of Carrying Babies. A. D. Mewborn.
42 *Pseudo-Appendicitis in Children. Louis Fischer.
43 Report of Two Cases of Epilepsy. J. M. Krim.

Medical Age (Detroit, Mich.), Dec. 25, 1901.

44 Report of the Obstetrical Service of the John Sealy Hospital for the Ten Years Ending with 1900. J. F. Y. Paine.
45 *Occipitoposterior Positions: Their Diagnosis and Treatment. Chas. E. Paddock.
46 Surgery of Gastric Hemorrhage and Perforation—The Treatment of Congenital Dislocations of the Hip as Discussed and Practiced in London, England. Hal C. Wyman.
47 Some Practical Points. W. Thornton Parker.
48 Acute Milk Infection. Eugene C. Roemele.

Medical Fortnightly (St. Louis), Dec. 25, 1901.

49 Obstruction of the Bowels by an Enterolith—Recovery by Passing the Stone Per Rectum. J. H. Miller.
50 *The Etiology of Paretic Dementia. Frank P. Norbury.
51 Diseases of the Stomach. (Continued.) J. M. G. Carter.
52 Sydenham's Chorea—Chorea Minor. F. Savary Pearce.

Pennsylvania Medical Journal (Pittsburg), December, 1901.

53 Address in Medicine, Medical Society of the State of Pennsylvania. John B. Donaldson.
54 *A Few Notes on the Salts of Sulpho-Carbolic Acid. Edgar Moore Green.
55 *Primary Abdominal Tuberculosis. Lawrence F. Flick.
56 *Three Cases Presenting Accidents in Chest Aspiration. J. C. Lange.
57 Therapeutic Notes. Linnæus Fussell.
58 *Lay Medical Education. Ella N. Ritter.
59 Is Medicine Founded on Truth? W. J. George.

The Journal of Experimental Medicine (Baltimore), November, 1901.

60 The Production of Sarcosporidiosis in the Mouse by Feeding Infected Muscular Tissue. Theobald Smith.
61 *A Study of Chronic Hyperplastic Tuberculosis of the Intestine, with Report of a Case. August Jerome Lartigau.
62 *A Case of Multiple Myeloma. W. G. MacCallum.
63 Acute Epizootic Leucoencephalitis in Horses. W. G. MacCallum and S. S. Buckley.
64 *On the Occurrence of Strongyloides Intestinalis in the United States. William Sydney Thayer.

The Clinical Review (Chicago), January.

65 Left Hemiplegia; Right Hemiplegia with Complete Aphasia; Epilepsy (?), Cases of Epilepsy; Infantile Giantism. D. R. Brower.
66 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. (Continued.) A. H. Levings.

Albany Medical Annals, January.

67 Résumé of the Subject of Actinomycosis, with Report of a Case of Actinomycosis Abdominalis. A. Vander Veer and Arthur W. Elting.
68 *Tropical Diseases as Observed in the Philippines. (To be concluded.) R. W. Andrews.
69 Tendon Transplantation for the Relief of Paralytic Talipes. M. D. Dickinson.

Canada Lancet (Toronto), December, 1901.

70 The Bacteriology of Tuberculosis. J. J. MacKenzie.
71 Signs and Symptoms of Tuberculosis of the Lungs. Robert D. Rudolf.
72 Bovine Tuberculosis and Protection of Milk Supplies. H. L. Russell.
73 The Home Treatment of Pulmonary Tuberculosis. Alexander McPhedran.
74 The Medicinal Treatment of Tuberculosis. John L. Davison.
75 Government Action *re* Tuberculosis. P. H. Bryce.
76 The Selection of Cases of Pulmonary Tuberculosis Suitable for Sanatorium Treatment. N. A. Powell.
77 Intraperitoneal Tuberculosis. James F. W. Ross.
78 Tuberculin in the Diagnosis and Treatment of Tuberculosis. H. C. Parsons.

The Journal of Medical Research (Boston), December, 1901.

79 *Oidiomycosis (Blastomycosis) of the Skin and Its Fungi. Howard T. Ricketts.

Medical Times and Register (Philadelphia), December, 1901.

80 Tumors. W. H. Walling.

Buffalo Medical Journal, January.

81 *Exophthalmic Goiter; Its Etiology, Symptoms and Treatment. Casey A. Wood.
82 *Appendicitis, etc., Complicating Pregnancy, Labor and the Puerperium. Samuel F. Brothers.
83 Report of the Medical Department of the Pan-American Exposition, Buffalo, 1901. Roswell Park.
84 Removal of Two Large Pus Tubes. L. G. Hanley.

New York State Journal of Medicine (N. Y.), December, 1901.

85 *The Estimation of the Malignancy of Tumors with Reference to the Reported Cures of the Disease. James Ewing.
86 *Arterio-sclerosis; Importance, Definition, Etiology and Symptomatology. Charles E. Nammack.
87 *The Clinical Course of Cancers in Relation to the Resemblance to Inflammatory and Infectious Processes. Albert E. Woehnert.
88 Vesical Emergencies—Their Surgical Management. Eugene Fuller.
89 Acne Vulgaris. Edmund L. Cocks.
90 The Clinical Laboratory in Surgical Diagnosis. Simon Flexner.

Mississippi Medical Record (Vicksburg), December, 1901.

91 Calorimetry vs. Thermometry. A. T. Mitchell.
92 Acute Edema of the Epiglottis. S. G. Dabney.

Medical and Surgical Monitor (Indianapolis, Ind.), Dec. 15, 1901.

93 Some of the Faults of Medical Men. J. A. Baughman.
94 The Treatment of Typhoid Fever with the Water Bath. W. F. Holmes.
95 Foreign Body in Eyeball Fifteen Years—Operation. J. Coultas.

Proceedings of the Philadelphia County Medical Society, December, 1901.

96 Gastroptosis and Gastric Motor Insufficiency. J. Dutton Steele.
97 Quinin Rash, with Report of a Case. Horatio C. Wood, Jr.
98 The Characteristics of Genuine Vaccinia. Some Statistics of the Present Smallpox Epidemic. Wm. M. Welch and J. F. Schamberg.
99 Tetanus Appearing in the Course of Vaccinia; Report of a Case. Robert N. Willson.

100 Trophо-Neurosis Affecting the Hair, with Photographs of a Case. F. Savary Pearce.
101 The Effect of Nitroglycerin in Vascular Disturbances of Some Functions of the Brain, with Reports of Two Cases. Alfred Gordon.

Proceedings of the Philadelphia County Medical Society, January.

102 Somnolence Caused by an Ear Lesion. W. G. B. Harland.
103 *Ichthyol in Tuberculosis. Charles F. Spangler.
104 Exhibition of an Epithelioma Amputated from the Penis; Exhibition of Patient; Report of Operation. William L. Rodman.
105 The Shock of Intra-Abdominal Operations, Its Etiology, Prophylaxis and Treatment. Lewis S. McMurtry.

Canadian Journal of Medicine and Surgery (Toronto), December, 1901.

106 Observations on the Nature and Treatment of Pernicious Anemia. Alexander McPhedran.
107 Hematology. L. H. Warner.
108 The Recent Christian Science Trial. James H. Richardson.
109 A New Wrench for Use in the Correction of Stubborn Deformities. George A. Peters.
110 New York Clinics. John Hunter.

Cleveland Journal of Medicine, November, 1901.

111 *The Pathology and Etiology of Cholelithiasis. A. S. Maschke.
112 *The Mechanical, or Combined Plastic and Mechanical Treatment of Retrodeviations of the Womb. Marcus Rosenwasser.
113 *Hydrophobia, with Report of Three Cases. Henry S. Upson.
114 Uterine Fibro-sarcoma; Case Report. A. F. House.

Dominion Medical Monthly (Toronto), December, 1901.

115 *Notes on the Treatment of Typhoid Fever. J. L. Bray.
116 Cough. Dr. Dunfield.
117 Clinical Notes on a Case of Mushroom Poisoning. A. J. Harrington.

New Orleans Medical and Surgical Journal, January.

118 *Bionomics, Experimental Investigations with Bacillus Sanarelli and Experimental Investigations with Malaria, in Connection with the Mosquitoes of New Orleans. George E. Beyer, O. L. Pothier, M. Couret, and I. I. Lemann.
119 Science and Pseudo-Science in Medicine. T. S. Dabney.

Southern California Practitioner (Los Angeles), December.

120 Appendicitis from the Standpoint of the Patient. W. W. Roblee.
121 Intestinal Anastomosis. C. W. Pierce.
122 The Galvano-cautery in Ophthalmology. George J. Lund.
123 Child-Bearing Among the Natives of Africa. Silas F. Johnson.
124 Injuries to the Head. E. A. Bryant.

Western Medical Review (Lincoln, Neb.), Dec. 16, 1901.

125 Nebraska's Medical Pioneers—Alexander S. von Mansfelde. H. Winnett Orr.
126 The Meaning of Recent Discoveries Concerning Malarial Organisms. Henry B. Ward.
127 *Traumatic Aneurysm, True and False. A. F. Jonas.
128 Practical Laboratory Diagnosis for the Busy Practitioner. H. H. Everett.
129 Massage in Diseases of the Female Pelvic Cavity. Torgny Anderson.
130 The Commission Evil. H. Gifford.
131 A Case of Suppurative Tubercular Peritonitis. A. B. Anderson.
132 Practical Suggestions in Therapeutics. W. D. Shields.

Oklahoma Medical Journal (Guthrie), November, 1901.

133 Presidential Address, Oklahoma Territorial Medical Association. R. D. Love.
134 Some Practical Applications of the X-Ray in Fractures and Dislocations. J. A. Reck.
135 Fussy Practice. Delos Walker.
136 Medical Instruction. John R. Hamill.
137 Oklahoma Medical Laws. Paul Sanger.

Detroit Medical Journal, December, 1901.

138 *Fractures. E. B. Smith.
139 *Ectopoid Gestation Complicating Fibroids. J. MacDonald.
140 Digitalis. G. Archie Stockwell.

Journal of Medicine and Science (Portland, Me.), December.

141 The Inspection of Meat and Cattle by the Bureau of Animal Industry of the United States. F. W. Huntington.
142 In the Progress of Modern Medicine, Important Development as Ways and Means. Franklin Staples.
143 Clinical Notes on Heroin. W. F. Pennebaker and S. Tripp.
144 Some Phases of Quackery. (To be continued.) P. J. Noyes.

The Therapeutic Gazette (Detroit, Mich.), Dec. 15, 1901.

145 *Metrorrhagia at the Extremes of Life—In Young Girls and Old Women. Barton Cooke Hirst.
146 Carbolic Acid: Its Use and Abuse. George W. Sargent.
147 *The Treatment of Acute Peritonitis, Especially That Arising from Perforative Appendicitis, Should Be Anatomical and Physiological Rest. Byron Robinson.
148 *Methyl (Wood) Alcohol as a Cause of Blindness—Should It Be Placed on the List of Poisons. Swan M. Burnett.
149 The Treatment of Locomotor Ataxia, with Special Reference to the Treatment of Educational Exercises. John W. Rhein.

St. Louis Courier of Medicine, December, 1901.

150 *Primary Abdominal Tuberculosis. Lawrence F. Flick.
151 Double Bell's Palsy. Frank R. Fry.
152 A Case of Muscular Atrophy: A Case of Lingual Hemiatrophy, with Presentation of Patients. Given Campbell, Jr.
153 The Blood in Syphilis and Other Infectious Diseases, and Changes Effected Through Medication, Diet, etc. L. H. Warner.
154 Report of Work in Ureteral Catheterization in the City Hospital the Past Year. H. L. Nietert.
155 Case of Recurrent Laryngeal Paralysis Due to Aortic Aneurysm. William E. Sauer.
156 Case of Recurrent Laryngeal Paralysis Due to Aortic Aneurysm. L. H. Hemplemann.
157 Corneal Ectasia with Preservation of Central Transparency Subsequent to Recurrent Marginal Keratitis. John Green, Jr.

Charlotte Medical Journal, December, 1901.

158 *Hay Fever; Its Etiology and Treatment. James Sawyer.
159 Brain Softening. Michael Campbell.
160 Cardiac Therapeutics. A. E. King.
161 *Gunshot Wound of the Right Lung, with Complications. A. M. Morrison.
162 Localization of Gallstones in the Gall-Bladder. Richard Douglass.
163 *The Surgical Treatment of Painful Menstruation. Henry D. Fry.
164 Spina Bifida. J. W. Henson.
165 *Gastrotomy and Retrograde Dilatation in Impermeable Benign Traumatic Stricture of the Esophagus and Internal Esophagotomy by the Abbe Sawstring Method. Hugh M. Taylor.
166 Cerebrospinal Fever, with Report of Some Cases. J. S. Greenlea.
167 Puerperal Eclampsia—Report of Case. G. A. Davis.

Vermont Medical Monthly (Burlington), Nov. 25, 1901.

168 The Relation of Animal Diseases to Public Health. (Continued.) Don D. Grout.
169 Pulmonary Tuberculosis—A Brief Consideration of Its Etiology, Symptomatology, Diagnosis and Treatment. (Continued.) H. Edwin Lewis.

Vermont Medical Monthly (Burlington), Dec. 25, 1901.

170 President's Annual Address, Vermont State Medical Society. W. D. Huntington.
171 Biography of Dr. J. H. Linsley. H. C. Tinkham.
172 The Best Alkaline Wash. W. Harpur Sloan.

AMERICAN.

1. **Hodgkin's Disease.**—The conclusions of Musser's article are that Hodgkin's disease is in all probability a lymphatic tuberculosis. Fever, recurrent in type, occurs commonly in this affection of the glandular structures. So-called recurrent fever is a symptom, not a disease. In a few rare instances the clinical diagnosis, when such fever prevailed, was malignant lymphoma (Pel), sarcoma (Völckers), myelosarcoma (Hammer), and lymphosarcoma (Remus and Witthower, Seebohn). It must be remembered that such distinguished authorities as Ehrlich and Lazarus believe that Hodgkin's disease is a lymphosarcoma, and that the tuberculous process is accidental. Sternberg, on the other hand, has pointed out the differences, and insists strongly upon the tuberculous as the process giving rise to the adenitis of Hodgkin's disease. He believes that the symptoms are different from those of other forms of tuberculosis, the anatomy of the gland having much to do with the process. He agrees with the conclusions of Sternberg.

2. **Bovine Tuberculosis.**—De Schweinitz and Schroeder have experimented on several baboons and monkeys as to their susceptibility to bovine tuberculosis and give the details. In all the cases there was a disseminated tuberculosis, the most marked in the higher monkeys. The animals succumbed usually within a few weeks at the outside and mostly within less than two months. The evidence shows a greater, rather than decreased, vulnerability to bovine tuberculosis for animals nearest related to the human species, and consequently by inference to man. They have also tested on various animals the effects of tuberculin made from bovine cultures, following the same rules as were made for human cultures as well as tuberculin made from swine and avian tuberculin. The tubercle

germ from the horse produced no reaction, which was accounted for possibly by the fact that the disease in the animal tested had been arrested.

4. **Hypnotism.**—From an analysis of the subject, so far as can be made, Burr comes to the conclusion that hypnotism is absolutely of no value in organic diseases. In functional ones its effect is little more than that of suggestion, which is an entirely different thing and has always been in use by medical men and others. Hypnotism is the mere garment in which for the time being suggestion has been clothed and is for the most part unnecessary in carrying out suggestive therapeutics as regards its usefulness. In education it has been tried and found wanting. Hypnotism injures the young, but suggestion is the tool of every wise schoolmaster.

5.—See abstract in THE JOURNAL, XXXVII, p. 934.

9. **Czolgosz Case.**—MacDonald's paper reviews the history of the assassin of President McKinley and gives the details of his personal examination of the assassin. He seems to suspect at least that Czolgosz had associates in the anarchical societies to which he belonged and was appointed to do the act. Reviewing the case in all its aspects he records his opinion expressly that Leon Czolgosz on Sept. 6, 1901, was in all respects sane both legally and mentally and fully responsible for his acts.

10. **The Czolgosz Postmortem.**—The details of the postmortem of Czolgosz, together with illustrations of the head casts taken after death and of the convolutions of the brain, etc., are detailed by Spitzka, who believes that from pathologic evidence the victim must have been socially diseased and perverted, but not mentally diseased.

12. **Rupture of the Spinal Ligaments.**—Painter and Osgood report four cases of injury to the spine in which there was kyphosis without tuberculosis or other disease of the vertebra and in which there were symptoms of pressure upon the cord that were relieved. The patients entirely recovered after a few months' treatment with plaster or other jackets. He has also collected 15 cases which seem to him to be uncomplicated rupture of the spinal ligaments and of which he gives a brief description. The following conclusions he thinks are justifiable: "1. Spinal ligaments, during life, may be ruptured without fracture or dislocation. 2. Nerve pressure symptoms may occur from a simple flexion of the vertebral column. 3. Recovery in these cases requires prolonged rest in a position which favors the repair of ligaments, and that the effects of treatment speaks more for the ligamentous rupture than for luxation of fracture. 4. The force that commonly produced the injuries (when stated) was one which, *a priori*, would be most likely to produce ligamentous rupture."

13. **Placenta Previa.**—The mortality from placenta previa, according to Higgins, is not now over 10 per cent.; generally under favorable circumstances and in skillful hands it is below 5 per cent. Abdominal section, he maintains, is hardly ever indicated and does not hold out even in favorable cases the promise of better than 10 per cent. mortality. Its risks are much greater and in unfavorable circumstances its mortality is prohibitive. The only cases of placenta previa in which Cesarean section is justified in his opinion are those at full term with complete previa, a rigid os, seen before the occurrence of any severe or dangerous hemorrhage, and with the mother and the fetus in good condition. He does not think that the prognosis of the child in Cesarean section is usually as good as estimated, and he thinks the reason why they seem less vigorous than those of the natural born is due to something more than etherization. In 25 Cesarean sections which he has seen, it was exceptional that the child did not cause more anxiety at the time of operation than the mother or that it did not have to be resuscitated with great care and by prolonged immersion in hot water.

14. **Privileged Communications.**—The views held by Nichols and derived from considerable experience in courts is that the exceptional admission of medical evidence that might be considered privileged has been favorable to the best administration of justice. He does not apparently favor the New York law, and thinks that any amendments to our present rules of evidence are needless. The whole matter of privileged testimony, he thinks, can be safely left to the discretion of the presiding judge, with the understanding that in the interest of public morality it would be a distinct advantage if evidence affecting the honor or social position of individuals or families could be given in private before a referee (?).

15. **Traumatic Asphyxia.**—Burrell and Crandon report a case and discuss the subject. They call particular attention to the skin symptoms and remark that the diagnosis ought not to be difficult if the person is still living. The victim of overcrowding, besides his contusions and possibly broken ribs and sternum, presents the localized bluish coloration as described, which is to be distinguished from cyanosis, is stupid up to insensibility, and has no delirium, no convulsion, no paralysis. The treatment should be immediate, as soon as the patient is seen, by artificial respiration, as in cases of drowning, if the patient is suffering from mechanical suppression of the phenomena of respiration.

16. **First Aid in Railroad Wrecks.**—Lofton advises the drilling of train hands in the art of rendering first aid. This should be done by the chief surgeon of the railroad and his assistants. Every train should have its first-aid surgical chest, containing material for stopping hemorrhages, stimulation, etc. The employes should be taught to know when and how to stimulate patients, judging from their pulse rate and appearance. They should be taught the great necessity for relieving pain and placing the wounded in the most favorable and comfortable position looking towards reaction. If this was done scientifically he believes the mortality in railroad wrecks would be lessened 85 per cent. Shock is the ordinary cause of death, but hemorrhage will account for it, he holds, in 90 per cent. of the cases; hence, the importance of education to meet this condition.

19. **Round Ligament Ventrosuspension.**—Gilliam has modified his operation as it was first performed so as to simplify the technique and improve its efficiency. The operation is as follows: "An abdominal incision three or four inches in length is made in the median line at the usual site between the umbilicus and pubes. The adhesions are broken up and the fundus brought forward. With a finger and thumb or a pair of bullet forceps the broad ligament of one side is seized and brought to the opening. By lifting up the anterior surface of the broad ligament on the tip of a finger applied to its posterior surface the round ligament is brought into view and is picked up, either between the thumb and finger or with a bullet forceps. Selecting a point an inch and a half from the uterus, a thread is passed under the round ligament and the ends of the thread are brought out of the opening and secured in the bite of a clamp forceps, which is laid upon the surface of the abdomen. The other ligament is sought for and secured in the same manner. At a point about one inch and a half above the pubes, the peritoneum, muscle, and fascia at one edge of the wound are caught up by a volsella and pinned together, being careful that the edges of these layers are in line. Traction is now made, and, with a small retractor, the skin and superficial fat are drawn in the opposite direction, uncovering the fascia. With a narrow-bladed knife, or better with the perforating forceps devised for the purpose, a stab wound is made from the surface of the fascia into the peritoneal cavity, the instrument entering one-half inch from the edge of the abdominal incision, and passing obliquely downward and outward, emerging on the peritoneum one inch from the edge of the abdominal incision. If the perforating forceps is used, the jaws are separated, and, by an outward movement of the handle, brought into plain view at the large opening. The thread which loops the round ligament is now placed in the jaws, the clamp forceps removed, and the perforating forceps withdrawn, bringing with it the thread and the ligament. If a knife has been used to make the perforation, it is withdrawn and a slender forceps introduced, with which the thread is caught up and the ligament drawn into place. Now, while the ligament is held taut, with its loop end a quarter or third of an inch above the

surface of the fascia, a catgut suture is passed through it, including the tissues on either side, and back again, where it is tied. This is cut close to the knot, the suspending thread cut on one side close to the ligament and withdrawn, and the volsella and retractor removed. The other side is dealt with in like manner and the abdominal incision closed." He claims that this leaves ample space for uterine pregnancy and also obviates any possibility of strangulation of the bowel. The uterus rests easily and naturally on the bladder from which it can be raised to a position little short of vertical. In his later operations he has had no trouble whatever from suppuration, which he attributes to the fact that he handles the ligament as little as possible and clips the suspending thread close to the ligament so as to avoid contamination by drawing it full length through the loop of the ligament after exposure of the abdominal wall. The slanting perforation of the abdominal wall through which the ligament is drawn is made in deference to a suggestion of Dr. W. E. B. Davis, who thinks it would be a safeguard against hernia.

21.—See also ¶9.

22.—Ibid., ¶10.

23. **Yellow Fever.**—This article is called out apparently by a letter from Dr. John H. Purnell, published in the *Philadelphia Medical Journal* of October 19, 1901. Gorgas gives the history of the yellow fever occurring in Havana, showing that by the methods adopted of screening the houses where yellow fever occurred and killing the mosquitoes, the foci were stamped out without any regard to the question of fomites whatever. He says that the death rate has fallen in Havana from 91.03 in 1898 to 24.40 in 1900, and probably to 21 for 1901. The methods employed involve a certain amount of expense, but he thinks the benefits obtained justify it. He considers that the facts as he gives them are strong enough proof of the theory of the mosquito-borne nature of yellow fever infection.

24. **Rheumatic Fever.**—Duckworth's article is a clinical lecture based on a case of blood poisoning in a boy with rheumatic symptoms. He discusses the diagnosis of rheumatic fever, holding that all the forms of arthritis or joint disease are the result of some infection, with one exception, gout. This seems to be the only exception in so far as the noxious matter does not come from without but from within. The gouty patient makes his own poison; the rheumatic patient receives toxins from other sources. What are these toxins? He mentions here influenza, gonorrhea, cerebro-spinal meningitis, osteomyelitis setting free staphylococcal and streptococcal infection. He says whenever we find salicylates ineffective we may reasonably conclude to revise our diagnosis and see if we are dealing with a case possibly not of rheumatic fever, but with arthritis due to some other infection.

25.—See also ¶9 above.

26.—Ibid., ¶10 above.

27. **Sanitary Aspects of the Panama and Nicaragua Canals.**—The climate, topography, etc., of the Panama and Nicaragua routes have been studied by Soper, who comes to the following conclusions: Both pass through a country which is extremely unfavorable to health. The difference between the Nicaragua and Panama is chiefly in regard to rainfall, that of Panama being most favorable to health. The soil condition, topography and engineering work are in favor of Panama; fewer men would be required and could be better protected. There is practically no difference in the nature of the diseases to be expected or in the nature of the precautions required. After construction the difficulty of controlling health conditions along the line would be greater on the Nicaragua route. The shorter Panama route would cause passing vessels to be less exposed to infection and the likelihood of the canal becoming a disease focus is much greater of Nicaragua than of Panama. Although there has been great loss of life by disease in the latter, this must not be considered as evidence of the greater immunity of the Nicaragua route. It is simply due to the greater number of persons exposed. Whichever route is selected extraordinary care will be required to maintain satisfactory health conditions during construction and after completion of the work. The plans and preparations in detail for an efficient sanitary and medical department should be made as early as possible.

28.—See also ¶9 above.

29.—Ibid., ¶10 above.

30. **Suprarenal Extract.**—Forty-five cases of the use of suprarenal extract, for hemorrhage, 21 of hemoptysis, 23 of uterine hemorrhage, and one of hematemesis, are reported, in all of which suprarenal powder was used internally. The application was generally by 5 gr. placed on the tongue, thoroughly rinsed with saliva and swallowed without water, which usually produced an effect within ten minutes. Nausea and vomiting were observed in only a few cases. The author knows of no other remedy internally administered which has given him such prompt results. It has proven a safe remedy even when the hemorrhage was complicated by disease of the heart, lungs, and kidneys.

31. **Hysterical Hemiplegia.**—A case is reported in detail by Winter, who discusses its pathology and gives his theory that paralysis was brought about, not by disease of the nerve processes, but by a retraction of the terminal end-brushes of the sensori-motor (psycho-motor) neurons, thus preventing the impulse from reaching the distinctly motor neurons. The etiologic factors were an inherited predisposition or mental instability, shock at the age of 9 years, increasing instability and keeping the fear of paralysis constantly before the patient, by suggestion from his family and himself, thus making suggestion the real exciting cause. Counter-suggestion, therefore, was adopted, and it proved successful. He thinks that one reason why so many frauds exist like Eddyism and Dowieism, etc., is the important and woefully neglected by the profession element of suggestibility.

32. **Absorption of Alexins.**—In this brief preliminary conclusion Levene alludes to the fact that different investigators have shown that the bacteriolytic or hemolytic sera when digested with dead bacteria of the different species lose their bacteriolytic power over other bacteria and also their hemolytic power. If, instead of dead germs, bacteria previously treated with a bactericidal serum heated at 55 C. be allowed to act on a bacteriolytic or hemolytic serum, the latter will lose its power to dissolve other bacteria or red cells. On the other hand, living bacteria fail to produce any effect on a normal serum which has no bactericidal power over the same bacteria. Thus it would appear that dead bacteria possess the power of absorbing alexins from normal sera, while living bacteria do the same only after having been previously saturated with the "immune body." He has experimented thus far only on the reaction of rabbits' serum to tubercle bacilli, to find out: 1, whether the normal sera lose their hemolytic power on digestion with dead tubercle bacilli; 2, what the power of a given serum should be if treated with living bacilli; 3, if an animal should be found whose serum normally does not lose its hemolytic power on treatment with living bacilli, would the serum of tuberculous animals act differently? As a result of his experiments he finds: 1. There exists a certain minimum quantity of dead tubercle bacilli, which it is necessary to add to a given serum in order to deprive it of its hemolytic power. Smaller quantities only diminish, not wholly abolish this. 2. Living virulent bacilli added in quantities approximately equal to the minimum of the dead bacilli have scarcely any effect on the hemolytic power of the serum. Added in larger quantities they diminish the hemolytic power of a serum, but in lesser degree than do dead bacilli. Further he finds that the "attenuated" cultures act in the same manner as the dead germs. When the serum of animals previously treated with the extract of crushed tubercle bacilli is tested with living virulent bacilli it loses its hemolytic power much more rapidly than does a normal serum. He is further investigating along this line.

33. **Refraction Errors.**—Buckner advocates the ideas advanced by Stevens, Ranney and others as regards the importance of refraction errors in the production of cerebral and other symptoms and reports three cases of neuralgia which were

relieved by the correction of such errors. In one case there was a mixed origin admitted. In the other cases he claims that his diagnosis was correct and the result of operation was relief.

42. **Pseudo-Appendicitis in Children.**—Fischer calls attention to a class of cases in children where the symptoms so strongly resemble appendicitis that operation will be proposed and yet the condition be different. Two cases are reported, one of catarrhal gastritis and the other of peritonitis from traumatism though the symptoms strongly suggested appendicitis. When the diagnosis is made by the process of exclusion great care should be exercised before resorting to extreme measures.

45. **Occipitoposterior Positions.**—The ideas intended to be conveyed by Paddock are that an early diagnosis of position and presentation should be made and that occipitoposterior positions are frequent, resulting in great fetal mortality and maternal morbidity, and should be corrected by postural measures before labor. Every case diagnosed O. D. P., should be directed to sleep on the right side and at all times when lying down to lie on that side, and to assume the knee-chest posture for ten minutes every morning. In very few cases will this method fail to bring about the desired change and labor will be correspondingly shortened.

50. **Paresis.**—Norbury reports briefly three cases of paresis which seemed to take their starting point from an attack of infectious fever and concludes that while syphilis is the etiologic factor in chief the infectious fevers are contributing elements, as is also heredity.

54.—See abstract in THE JOURNAL, xxxvii, p. 995.

55.—Ibid., p. 996.

56.—Ibid.

58.—Ibid., p. 997.

61. **Intestinal Tuberculosis.**—The form here described, chronic hyperplastic tuberculosis, has been noticed of recent years and is distinctly characterized by its affecting various segments of the intestinal tube and by usually a considerable degree of thickening of the intestinal wall. Lartigau reports a case in full detail and discusses the condition generally, pointing out the gross and microscopic lesions, its point of predilection, especially near the cecum, the influence of sex, occupation, various diseases, etc., and the question whether it is primary or secondary to pulmonary disease. The case he reports, he thinks, is undoubtedly a primary case; there was no evidence of the presence of a former pulmonary tuberculosis. The symptomatology is given in general terms at the close of the article, indefinite onset, dyspepsia, vomiting, abdominal pain, possibly tympanites, later alternate diarrhea and constipation and occasionally persistent diarrhea; loss of strength and weight, evening rise of temperature, etc., are the characteristics of the earlier stages. With time the abdominal crises become accentuated and the weakness very great. Some patients suffer from recurring colic, accompanied by vomiting and constipation. The area of greatest tenderness is usually within the right iliac fossa where the symptoms of obstruction usually appear. Later the clinical picture is more and more definitely that of chronic intestinal obstruction; thus in carcinoma there may be various local abdominal distentions, some tenderness and possibly tympanites, and dulness usually present directly over the tumor. In the rectal form the hemorrhages are characteristic from the start in a large proportion of cases and stenosis develops later. As regards treatment, he thinks most cases of reported resected cancer of the regions affected are probably hyperplastic tuberculosis. The condition is a surgical one. Extirpation of diseased tissue promises good results in a large proportion of cases.

62. **Multiple Myeloma.**—The symptoms in the case reported by MacCallum were discussed by Hamburger, in the *Bulletin* of the Johns Hopkins Hospital, 1901, xxii, p. 38. They consisted of spontaneous occurrence of fractures of the bones followed by the appearance of definite soft tumor masses over various bones. No marked anemia, albumosuria. The autopsy showed multiple new growths from the bone-marrow, not very sharply delimited from the marrow and showing very gradual transitions into it, the cells having the general form and characters of the bone-marrow cells, lacking the specific granules of the myelocytes and their formative antecedents. They differ in essential particulars from the plasma cells, and especially these facts and the fact that they largely replace the myelocytes in the neighborhood of the tumor lead the author to consider them directly related to these cells, probably derived from the large non-granular forerunners of the myelocytes. Degenerative changes, numerous cell inclusions, and the abundance of red blood cells scattered in the tumor mass have been noted. The etiology of the affection remains obscure.

64. **Strongyloides Intestinalis.**—From a discussion of the subject and a study of other cases Thayer considers himself justified in emphasizing the following points: "1. Diarrhea associated with the presence of strongyloides intestinalis occurs in the United States. 2. The observation, in the Johns Hopkins Hospital, of three cases within three years, cases originating probably in Maryland and Virginia, suggests that this parasite may be more frequent than has hitherto been supposed. 3. As in most cases originating elsewhere, in temperate climates, the development of the sexually differentiated, free living generation was in these instances apparently unusual, the direct transformation of the rhabditiform embryos into filariform larvæ predominating. 4. The discovery of the existence of strongyloides intestinalis should emphasize the possibility that Uncinaria duodenalis may also occur in this country. 5. More systematic examinations of the feces both in public clinics and in private practice are much to be desired."

68. **Tropical Diseases.**—The special forms of tropical diseases noted as prevalent in Manila by Andrews are malarial affections, enteric disorders and certain parasitic diseases. He specially mentions dengue which is generally temporary, diarrhea due to dietetic errors, malaria, dhobie itch, and ascaris lumbricoides as epidemic. The dhobie itch is simply tinea circinata, but in Manila it often causes ulcers and sometimes serious abscess and buboes. These, however, when opened and drained, give no further trouble.

79. **Oidiomycosis of the Skin.**—This article occupies the whole of the journal and is very elaborate and monographic. We can only give here a summary of the conclusions. A very extensive bibliography is appended and the paper is elaborately illustrated: "1. The so-called protozoic disease of Posadas, Wernicke, and others; Busse's and Curtis' saccharomycosis hominis; and Gilchrist's blastomycetic dermatitis are various manifestations of the same disease. 2. The condition in the skin possesses constant clinical and histological characteristics which separate it positively from all other skin diseases, particularly verrucous tuberculosis, carcinoma, and syphilis. 3. The organisms isolated from various cases, differ in minor respects among themselves, but are so closely related morphologically and biologically as to justify their inclusion in a common genus; oïdium; they are thus analogous in a pathogenetic sense to the fungi which cause actinomycosis, and to those causing trichophytosis. 4. The variations among the organisms allow the recognition of three morphologic types: *a*, blastomycetoid or yeast-like; *b*, oïdium-like; *c*, hyphomycetoid. 5. There are two histologic forms of the disease in the skin, the eosinophilous and the non-eosinophilous, the former being associated with the mold type of the organism. 6. In accordance with conclusion 3, oïdiomycosis is an appropiate term for the conditions caused by the organisms, and oïdiomycosis cutis for the disease as it occurs in the skin. 7. Aside from the infections considered in this communication, certain cases which have been described in the literature from time to time indicate that oïdium-like organisms may cause other severe pathologic conditions in man."

87. **Exophthalmic Goiter.**—The theories of exophthalmic goiter are noticed by Wood, who holds that it undoubtedly is due to deranged function, but just what this derangement is and its cause is not absolutely clear. The symptoms are rapidly

reviewed, and he notices particularly one which he has observed in one case, namely, fetid night sweats, which has been mentioned also by Basedow, but not noticed in many of the articles on the disease. Exophthalmus, Dalrymple's sign or retraction of the upper lid, infrequent winking, Graefe's sign, insufficiency of convergence or the sign of Möbius, Becker's sign or spontaneous pulsation of the retinal arteries, epiphora, which is still more common, dryness of the eyes, loss of sensation of the cornea and conjunctiva and various other symptoms are discussed. Of course, only a few of these may be present, and the disease may exist without at least two of its three cardinal signs and one side alone may be affected by the proptosis and other ocular symptoms. As regards treatment he is inclined to believe, from the number of medical remedies that have apparently succeeded, that a certain proportion of the cases are self-limited. He advises non-stimulating food and as much sleep as possible. As regards surgery sympathectomy has apparently done good in some cases. Thyroid excision is a serious operation which should be only performed in hopeless cases. In resorting to it one should never promise a cure and should always set forth the danger of the operation.

82. **Appendicitis in Pregnancy.**—Brothers reports a case and quotes others from the literature of this complication and discusses its management. He thinks many cases have never been recorded because the course of the disease is too mild to excite interest and others where fatal results follow operation. The logic of conservatism in the treatment of appendicitis during the reproductive process may be summed up, he says, as follows: 1. The cardinal argument is the admitted fact that cases do recover completely without operation; 2, it is necessary to respect the popular fear of all operations, in the absence of good reasons for ignoring it; 3, "self-preservation is the first law of nature," and none of you desire another practitioner, with perhaps less conscientious scruples—and perhaps as much in need of "the root of evil" as yourself—to displace you by humoring the patient's feelings with a recommendation of delay, after you have insisted on immediate operation; 4, the still open question as to which procedure is safest for the mother, a child's life being the secondary consideration. And, finally, the knowledge that certain cases are beyond human assistance from the onset.

85. **Malignant Tumors.**—Ewing believes there is very little difference in the results obtained from surgical treatment, and he aims to notice here the special points which account for the difference of opinion in regard to the curability of cancer of the breast. In carcinoma one of the most important factors in determining the outcome is the previous duration of the disease. It is very difficult to form an estimate of the age of a carcinoma. Another less generally recognized form is that of small carcinomatous focus often existing in non-malignant tumors and these are reported as operations for malignant disease and considered as cured. If we are going to estimate the matter, the question of rapidity of growth should be considered. He recognizes among the carcinomas of the breast one group which retains more or less the adenomatous type, adeno-carcinomata which are met with under three different conditions: 1. A carcinomatous multiplication of cells in the epithelial tufts projecting into larger cystic adenomata. These should be removed early and the operation ought to be in most cases followed by permanent cure. 2. Adeno-carcinoma arising in tumors with dilated spaces in which the extensive multiple cells are confined within the original alveolus. Such tumors seldom involve the lymph nodes and their prognosis is good. 3. A type where it arises in the long quiescent gland by the increase in number and tortuosity of the secreting alveoli producing large lobules containing an excessive number of alveoli in section, while the cell multiplication often bursts the basement membrane, throwing the tumor into the class of adeno-carcinoma. The histologic structure of these indicates a moderate grade of malignancy. All these should be separated from pure carcinomas in prognosis in estimating the results of operation. The remaining group of pure carcinomata commonly described as a small or large alveolar, or encephaloid or tubular carcinoma, and the distinct sub-group of scirrhus, are another matter and he describes their characteristics. He has seldom seen a permanent cure of the tubular type in which an extension to the lymphatics measured by inches very likely occurs in a period measured by months or even weeks, although the original tumor may not appear to be growing rapidly. The alveolar on the other hand shows a greater variety of structure and greater difference in the prognosis. A lessened grade of malignancy may be expected in tumors where the alveolar tendency is permanent and where the cells divide their energies between multiplication and secretion and especially where mucoid degeneration destroys many cells which would otherwise continue to multiply. This last factor has been known to bring to a standstill this growth of glandular carcinoma and if it could be artificially introduced the malignancy might be diminished. Extreme malignancy must be ascribed, however, to glandular carcinoma in which the cells show little tendency to maintain a distinct alveolar arrangement, or even grow diffusely and the secretory function is entirely lost, the multiplication of cells not interrupted by degenerative changes, and the inflammatory process is exudative rather than productive. In both tubular and alveolar carcinomata the age of the patient and the relation of the growth to pregnancy, lactation and the menopause are of prime importance in determining prognosis. The most malignant cancers of the breast are alveolar carcinomata, first noted during or after lactation, while there is an increasing tendency toward the scirrhus type as the subjects pass the menopause. In scirrhus the grade of malignancy is always less than with the tubular variety and most of the alveolar types. Yet the lack of a prominent localized tumor secures for many of them immunity from operation until there is extensive involvement of the lymph nodes. Hence, the duration of a fibro-carcinoma is the chief factor determining the result of operation. He calls for the co-operation of surgeons and pathologists in matter to determine more accurately the relation of progress to histologic structure in these two classes of carcinoma of the breast.

86.—See abstract in THE JOURNAL, xxxvii, p. 1337.

87.—Ibid., p. 1267.

103. **Ichthyol in Tuberculosis.**—Spangler advises the use of ichthyol in the home treatment of tuberculosis. In its method of administration he generally begins with a No. 1 empty capsule filled by the patient after each meal for the first week, adding another to the dose during the second week, and a third to each dose during the third week. This last dosage is maintained indefinitely and presents the advantage of attaining the maximum degree of tolerance in the shortest time. If eructations give special discomfort he divides the dose somewhat, giving the capsules after breakfast and at bedtime. The cough paroxysms lessen in intensity, expectoration becomes more profuse, the sputum less dense and the appetite improves. There is usually a marked weekly gain in weight. If there should be a pleuritic or pneumonic attack, ichthyol is suspended as long as the acute symptoms last and carbonate of guaiacol or other remedies substituted. Phenol hypodermically is excellent for cases associated with gastric or intestinal irritability. Strychnin in supporting doses during the early months is a valuable adjunct to treatment. He advises that all cases of obstinate cough or persistent irritation of the upper air passages, particularly that following la grippe, pneumonia or typhoid, should be placed upon ichthyol and proper habit discipline.

111. **Cholelithiasis.**—Maschke sums up our knowledge of the etiology of cholelithiasis as follows: "In cholelithiasis we have to do with a local disease, and not with any constitutional or nutritive disturbance. The presence in the bile, in insoluble form, of the two chief constituents of gallstones, cholesterin and bilirubin-calcium, is determined by local causes. The cholesterin found in gallstones has never been in solution in the bile, but is formed as a product of epithelial degeneration, and the combination of bilirubin and lime salts to form insoluble bilirubin-calcium is brought about also by the presence of albumin derived from degenerated mucus and epithe-

lial products. Thus a condition that would favor the degeneration of epithelium and the increased secretion of mucus, or in other words a catarrh, would produce these factors. As cause of the catarrh any factor that favors the stagnation of bile and thus renders infection by micro-organisms possible, is considered as the predominating influence. The bacteria involved are usually the bacillus coli, or bacillus typhosus. The general etiologic factors, age, sex, pregnancy, clothing, sedentary life, etc., only serve to bring out one important fact, that anything that favors stagnation of bile favors the occurrence of the lithogenic catarrh."

112.—See abstract in THE JOURNAL, xxxvii, p. 856.

113. **Rabies.**—Three cases are reported by Upson which have certain features of interest. In the first, which he considers a typical case, the patient was an unusually well-balanced man with no hysteric tendencies, and while he diagnosed his condition himself he bore it throughout with wonderful nerve. Inoculation experiments from the cat that caused the disease produced hydrophobia in a rabbit. The second case was that of a woman who had no idea of what was the matter with her until late in the disease, but the impression produced by the aspect of the patient was not that of fear or mental depression, but such as one of an infectious disorder acting on the nerve centers and the circulation. The third case is somewhat less clearly an instance of the disease. He believes that, with the use of adequate doses of morphin, patients need suffer no more than do patients suffering with other affections hopeless from the start.

115.—See abstract in THE JOURNAL, xxxvii, p. 713.

118. **The Mosquito Investigations at New Orleans.**—Nearly the whole of this issue is taken up with the elaborate article by Beyer and Pothier, who summarize their work as follows: "We have studied the topographic and seasonal distribution of the mosquitoes infesting this city and vicinity and have determined that anopheles inhabits the swamps surrounding the city, as well as the outskirts, while stegomyia and some of the common forms of culex prevail in the heart of the city, finding their breeding-places in cisterns and gutters." They here call attention to maps of the distribution of these genera and the location of yellow fever cases in 1897. "While there is more or less striking coincidence between the distribution of stegomyia and of yellow fever cases, and while we think this is in a degree significant, we ought not to lay undue emphasis upon this fact, for reasons which will readily present themselves. The maps are as accurate as the data we have at hand, but it must be remembered that these fever cases were not checked up by blood examinations and we can not be certain that all cases reported were yellow fever, nor that all yellow fever cases were reported. Moreover, stegomyia is absent from those sections sparsely inhabited, which show no yellow fever infection, possibly because there were no inhabitants to have the disease." Experimental work with bacillus icteroides (Sanarelli) and mosquitoes lead them to say: "1. We have established to our satisfaction that the bacillus described by Sanarelli as bacillus icteroides is a distinct pathogenic organism. 2. We have infected stegomyia fasciata by allowing them to bite animals infected with bacillus icteroides and suffering from a disease corresponding experimentally to yellow fever, as observed in animals (dogs and rabbits). 3. We have recovered in pure culture the bacillus icteroides Sanarelli from these mosquitoes so infected. 4. We have produced in healthy animals the same disease by allowing some to be stung by mosquitoes infected from five to eleven days previously, and by inoculating others with cultures made from infected mosquitoes. 5. We have recovered the bacilli again from these mosquito-infected animals. 6. We have not, however, been able thus far to stain and locate the bacilli in the tissues of the mosquito when sectioned. Mosquitoes that have bitten malarial patients have been sectioned and the parasites found." Epidemiologic considerations lead the authors to believe that while anopheles maculipennis is responsible for simple tertian and quartan infection, anopheles crucians is responsible for estivo-autumnal disease. They point out the methods of exterminating mosquitoes, abolishing surface drainage, substituting sewerage, etc., and claim credit for the following salient points established by them: "Correlation of distribution of stegomyia fasciata and of yellow fever within limits of the city. Mosquitoes may convey bacterial disease by inoculation, the organism experimented with being the one believed to be the cause of yellow fever. Confirmation of the work on malaria by English, German and Italian investigators." They believe that they "have determined that the mosquito stegomyia fasciata can inoculate the disease produced by bacillus icteroides Sanarelli, after having had some days previously ingested blood from an animal infected with this bacillus. We have not disproven that the mosquito might convey the materies morbi simply mechanically, either by means of its mechanically infected proboscis or by means of its body, wings and legs, soiled by contact with dejecta and then touching food or drink of another individual. While this is not urged as a probable mode of infection, it is a matter that should be settled one way or the other; hence, it is a subject for future experiments. Further attempts should be made to locate the bacillus icteroides Sanarelli within the tissues of the infected mosquito."

127. **Traumatic Aneurysm.**—Three cases are reported, with the following conclusions: "1. True traumatic aneurysms, which are unmistakably the result of traumatism inflicted on a blood vessel, modifying its integrity. 2. A limiting connective tissue wall may develop around a hematoma which is the result of an injured blood vessel and may or may not have a communication with the blood vessel. Such a condition in no sense is an aneurysm. The formation is entirely extrinsic and never was a part of the arterial wall, and therefore should not be termed an aneurysm. 3. A recent hematoma, resulting from an injury to an important blood vessel, whose limitations depend on anatomic boundaries, has even less claims than an encysted hematoma to the term aneurysm. A better term would be traumatic arterial or venous hematoma. It will be in the direction of scientific accuracy to exclude from our terminology, 'traumatic aneurysm,' all conditions which do not conform to the definition, viz., a sac formed by the dilatation of the walls of the artery, filled with blood."

138.—See abstract in THE JOURNAL, xxxvii, p. 849.

139. **Ectopoid Gestation.**—Macdonald reports a case with symptoms of bloody discharge, bearing-down pain, etc., with a large asymmetrical mass within the abdomen, which, when operated on surgically, revealed a two months' fetus under the peritoneum of the left side of the uterus which had been ruptured subperitoneally. The patient made a good recovery.

145. **Metrorrhagia.**—Hirst reports cases of metrorrhagia occurring in young girls and elderly females and offers the following as his conclusions: "There is a metrorrhagia in young girls due to glandular and interstitial endometritis, which, if neglected, may seriously impair their health; it is curable by curettement (perhaps repeated) and by the removal of any cause of pelvic congestion that may be present. There is a metrorrhagia in old women years after the menopause, not due to malignant disease (which ought always to be suspected), but to a corporeal or cervical polyp and an accompanying endometritis."

147. **Acute Peritonitis.**—The treatment suggested by Robinson is first giving no fluid or food by the mouth. Rather wash out the stomach if vomiting is active. 2. Keep the patient absolutely still on the bed, not allowing him to get up for any purpose whatever. 3. Give small doses of morphin sulphate, 1/16 gr. at intervals of two to four hours. 4. Apply continued cold to the abdomen by rubber tube-coil or rubber ice-bag; or apply continued heat by means of large cornmeal poultices. 5. To check the thirst employ rectal injections and wet gauze to the lips. 6. No ice should be allowed. Nourish with liquid foods per rectum. Give no cathartics and give the peritoneum time to produce an exudate which will imprison germs, sterilize and digest them.

148. **Methyl Alcohol Blindness.**—Burnett reviews the previous history of this form of affection and reports two

cases. He finds that so far nothing has been found that will check its results. If a poisonous amount of wood alcohol has been taken we should expect blindness more or less complete. Therefore, he suggests we should prevent the use of it and consider it one of the dangerous poisons. At present the country is flooded with a poison dangerous to vision and even life itself under various and entirely unsuspected forms in the economic use of wood alcohol.

150.—See abstract in THE JOURNAL, xxxvii, p. 996.

158. **Hay Fever.**—After describing the disease and its general treatment Sawyer says that his great reliance has been for some time on powdered desiccated suprarenal gland. It relieves for two or three hours and may need to be often repeated. He would carry it to the full physiologic effect of the remedy. He generally uses a from 3 to 10 per cent. solution locally by spray or on cotton, repeating when the symptoms demand it, and from 3 to 10 gr. of desiccated gland internally. He says very satisfactory results may be obtained from using it internally alone, giving it in full doses, 5 gr. every two hours until the physiologic effect is obtained and the symptoms are controlled, then diminishing in quantity until finally it is used only twice daily through the hay-fever season.

161.—This article has appeared elsewhere. See THE JOURNAL, xxxvii, ¶98, p. 1062.

163.—See abstract in THE JOURNAL, xxxvii, p. 1410.

165.—This article has appeared elsewhere. See THE JOURNAL of January 4, title 50, p. 61.

FOREIGN.

British Medical Journal, December 28.

Localization in the "Motor" Cerebral Cortex. C. S. SHERRINGTON and A. S. F. GRUENBAUM.—The authors experimented on all the known species of anthropoid apes, but mainly on the chimpanzee. They point out certain differences from current views as regards localization that have been observed in their experiments. The so-called motor area occupies unbrokenly the whole length of the precentral convolution, and in most places the greater part or the whole of its width. It also occupies the anterior wall, and in some places includes the base of the Rolandic fissure, occasionally extending even into the deeper part of the posterior wall. They have never, however, found the motor area extend to the free face of the postcentral convolution. The anterior limit of the motor area is not bounded by any fissure. The front part usually dips into and across the upper part of the superior precentral fissure, and lower down it not infrequently dips into the inferior precentral fissure. Occasionally the front edge of the region dips into almost the whole length of the superior precentral sulcus. It is not the area of the motor region that is variable, but the variation is in the sulcus itself and they point out that the sulci are not strictly of value in the topography of the functional centers. There is so much individual variation that the only way of ascertaining the location is by electrodes. Two landmarks of real value are the genua of the Rolandic fissure. They were surprised by the ease with which faradization elicited movements from this so-called motor region of the cortex of the anthropoid, as their predecessors had stated that stronger currents were required than in the lower monkeys. Another point in which their results differ is that in certain individual cases the epileptiform discharges were very easily excited. They give the details of the different motor areas and remark that they have found in some cases a severe crossed brachioplegia from the excision of the hand region of the right hemisphere without the slightest sign of paresis in the face or leg. Lesions in the leg area might cause similar temporary paresis in the opposite leg. From their observations they think it probable that as much of the motor area lies hidden in the sulci as actually lies in the free surface of the convolutions, but endorse the opinion of Beevor and Horsley that the so-called motor areas in anthropoid brains form only a smaller fraction of the total surfaces than is found in the lower types of the monkey.

Theories of Inheritance. G. ARCHDALL REID.—Reid's article is a statement of his Weismannic views as regards the non-inheritance of acquired characters. He starts with the assumption that the transmissibility of acquired characters is unbelievable, and argues therefrom. A large part of his article is an attack on Adami's views and his hypothesis of the transmission of acquired characters.

The Lancet, December 28.

Early Diagnosis of Pulmonary Consumption, with Especial Reference to the Value of Tuberculin. ARTHUR LATHAM.—The points insisted upon as important in the early diagnosis of pulmonary tuberculosis are as follows: Latham thinks we are justified in making a positive diagnosis in the vast majority of cases: 1. When we find diminished resonance and increased resistance to the finger associated with the presence of persistent crepitations or fine râles in those situations in which tuberculosis usually starts in the lungs, namely, the apices of the upper lobes, more especially towards their posterior aspect. 2. When the symptoms are suggestive of tuberculosis and tubercle bacilli are present in the sputum, though the physical signs of the lungs are absent. 3. When hemoptysis occurs in cases, to any extent whatever, where there is no evidence that bleeding comes from the upper air-passages or is dependent upon some morbid condition of the heart or other diseases within the chest. 4. When there are suspicious signs in the lungs with tuberculous disease elsewhere in the body. He illustrates these different points, calling attention particularly to careful research for trivial causes of hemoptysis. The other methods, such as agglutination of tubercle bacilli by the patient's serum, *x*-ray examination, etc., are not considered entirely reliable, but where the disease is so slight that the diagnosis can not be made on physical signs, or any tubercle bacilli found, he believes that one, two or three small injections of Koch's old tuberculin are absolutely free from danger. The value of this reaction is not absolute, but we may compare it with the Widal reaction in typhoid fever. He thinks that we have in it a very valuable means for making a positive diagnosis in a large number of cases which present suspicious symptoms and signs at a much earlier stage of the disease than we can by any other means.

Journal of Tropical Medicine, December 16.

The New Biological Test for Blood—Its Value in Legal Medicine and in Relation to Zoologic Classification. GEORGE H. F. NUTTALL.—The new test for blood which has been lately largely noticed, is discussed by Nuttall, who claims that we have in anti-serum a very delicate test which will have its use in legal medicine and will permit of our study of the relationship between animals. It is very remarkable that a common chemical property has persisted in the blood of anthropoids throughout the ages that have elapsed during their evolution from a common ancestor and this in spite of the food and different habits of life. Similarly the blood relationship existing between other groups of animals serves to carry us back into geological times. He believes that by means of these studies of the blood we shall have a most valuable aid in the study of the various problems of evolution. He remarks in conclusion that Uhlenhuth wrongly takes credit to himself of having discovered this test for the blood. In fact, he has discovered no new principle, but only followed the lines laid down by Tchistovitch, Bordet and Myers. While he was the first to obtain an anti-serum for the human blood and proved that reactions took place with solutions of dried blood, he is wholly unjustified in taking the credit of the method to himself, especially as he was evidently perfectly aware of the literature on the subject.

Hospitalstidende (Copenhagen), No. 47.

Congenital Stenosis of the Pylorus. HIRSCHSPRUNG.—This surgeon is inclined to favor gastrotomy with subsequent dilatation of the pylorus, which has been successfully done by Nicoll and Schmidt. It is less aggressive than gastro-enterostomy and restores natural conditions, but gastro-enterostomy has a number of successes to its credit, which he reviews in detail.

Annales de Dermatologie (Paris), October.

Iodo-Mercury Cacodylate in Treatment of Syphilis. CIVATTE and FRAISSE.—This communication from Brocq's service at the Broca hospital describes the results of the administration of a combination of arsenic and mercury in 60 cases of syphilis. After testing various preparations a special combination was made for the purpose by dissolving 1 gm. of mercury cacodylate and 2 gm. of cacodylic acid in 75 gm. of distilled water. In another vessel 1 gm. of sodium iodid is dissolved in 5 gm. of water, and the two fluids are mixed and neutralized with dilute solution of sodium. Distilled water is then added to make 100 c.c. The resulting fluid is limpid, stable, is not decomposed by light and can be sterilized at 120 C. for twenty minutes. The dose, 1 c.c., is injected perpendicularly into the upper, outer region of the buttocks with a needle 4 cm. long. After one or two injections the dose is increased to 2 cm. No inconveniences were observed in any case. The results were so superior to mercurial treatment alone, that the addition of sodium cacodylate is evidently indicated in syphilis whenever the patient is depressed, neurasthenic or emaciated. The mixture above described is soluble and easily absorbed by the cellular tissue. It is less painful than any other mercurial preparation and simplifies treatment by administering the two drugs at once. This combined method of treatment is unnecessary for vigorous or excitable subjects, and is perhaps contra-indicated in case of consumptives with a tendency to hemoptysis.

November.

Linear Dermatoses. F. BALZER.—Two cases are described, one of nevus and the other of psoriasis, distinguished by the fact that the dermatosis occurred in stripes, horizontal, oblique or longitudinal. The nevi developed after the patient had accomplished his military service. They affected only one side of the body, and were arranged in more than sixteen stripes, four running down the leg to the middle of the calf. The psoriasis was also unilateral and most pronounced on the leg. Analysis of the cases shows that the theory of a metameric and of an embryonal origin do not exclude each other. The general cause works along the lines of least resistance, and the diminished resistance may be from some disturbance in the embryonal existence or in the innervation, either peripheral or central.

Archives Gen. de Medecine (Paris), November.

Progressive Asystolia in Young Persons Due to Primary, Subacute Myocarditis. E. JOSSERAND.—Josserand describes three cases personally observed. The patients were young men previously healthy. They suddenly presented symptoms suggesting tuberculosis or nephritis, cough, hemoptysis, emaciation, tendency to asphyxia, edema, signs of cerebral and pulmonary embolism with a normal or nearly normal pulse and a simple bruit de galop at the heart. The affection was fatal in 4, 8 and 18 months, with no remissions.

Gazette Heb. de Med. (Paris), November 3, No. 88.

Surgical Intervention for Dystocia from a Fibroma. A. BOURSIER.—After comprehensive study of the subject Boursier concludes that total abdominal hysterectomy is the preferable operation for this condition, and should be done whether the fetus is alive or not. Symphysiotomy should be absolutely rejected, and conservative Cesarean section is indicated only in very exceptional cases. It is, however, a good operation when it can be effectually completed by myomectomy. The Porro should be reserved for certain special cases.

No. 92.

Clinical Interest of Blood Ferments. C. ACHARD.—This communication calls attention to the fact that a much lessened activity of the blood ferments—especially lipase—indicates diminished powers of resistance on the part of the economy in general, and is hence an unfavorable sign for the prognosis.

No. 95.

Herpes After Spinal Cocainization. C. ACHARD.—Violent headache and vomiting were noted in three cases, commencing soon after the injection, accompanied by higher temperature. The herpes developed on the face after nearly forty-eight hours. Eucain was used instead of cocain in one case.

No. 96.

Two Cases of Splenectomy.—BLANQUINQUE. The spleen was removed on account of splenomegalia in one patient, who rapidly recovered. The other case was a patient with severe leukemia. The spleen weighed nearly 3.5 kilograms and was very friable, with patches of amyloid degeneration. The symptoms of leukemia had commenced in the midst of perfect health ten months before. He survived the operation only eight hours.

Presse Medicale (Paris), December 4.

Lesions of the Myocardium in Uremia. P. MERKLEN.—Three cases of subacute interstitial myocarditis of uremic origin are described. It occurred in the course of chronic nephritis complicated by acute parenchymatous nephritis. Albuminuria was abundant and rebellious in all three. One exhibited symptoms of acute edema of the lungs, another headache and coma, the third uncontrollable vomiting, metrorrhagia and hematemesis. The autopsy disclosed lesions in the myocardium similar to those observed in toxemia of an infectious origin, resembling an inflammatory edema. This uremic myocarditis caused no symptoms during life, but it throws light on various functional disturbances and chronic alterations in different organs noted in renal toxemia.

December 7.

Pre-Pyloric Ulcero-Cancer. G. HAYEM.—Eight or nine cases of cancer consecutive to a chronic ulcer have been studied by Hayem. He describes the pathologic anatomy of 5 in all their details, which seem to be largely identical in each case. The age of the patients was 40 to 53; all were men. A tumor was palpable in only one case. In 2 patients the ulcer had caused no symptoms until the cancerous degeneration occurred, when there was constantly loss of appetite, pains and vomiting of fresh or digested blood. The terminal stage was marked by asthenia, anemia and signs of dehydration. Hayem's experience indicates that this ulcero-carcinoma is the most serious of all gastric affections.

December 14.

Generalized Malignant Lymphoma. A. JOSIAS.—The child whose case is described by Josias, was 9 years old. The affection ran an almost acute course in a few months. The tonsils were first affected and a large tumor developed in one. The autopsy disclosed that the entire lymphatic system was affected, apparently a return of the lymphatic organs to the embryonal condition under the influence of some toxin. This malignant lymphadenoma seems to be an infectious disease, Josias concludes, causing a special reaction on the part of the adult lymphatic tissue or of the relics of the embryonal. Judging from the alterations in the bone marrow and in the spleen, the agent of the infection does not belong to the group of micro-organisms which have been discovered in the blood and organs in cases of pseudo-leukemia. This is proved by the absence of local polynucleosis, which differentiates the affection from the changes induced by ordinary infections.

Typhoid Staphylococcus Infection. E. HIRTZ.—A robust young man, addicted to drink, died in seventeen days after the commencement of an acute disease characterized by headache, epistaxis, fever, vomiting and a fetid, yellow diarrhea. The pulse was rapid and soft, the face and extremities cyanosed and death occurred in increasing dyspnea. The autopsy disclosed on nearly all the organs, but most pronounced on the kidneys, the multiple visceral emboli of experimental general staphylococcus infection. There were no cutaneous nor osteomyelitic lesions. Besides the classic cardio-renal localizations, there were also ulceration of the intestines and bulbo-medullary abscesses. The entering-point of the infection was unknown.

Revue de Chirurgie (Paris), December.

Reflux in Gastro-Enterostomy. E. TAVEL.—Tavel describes a case in which gastro-enterostomy in its various modifications was performed five times in order to relieve the symptoms of hyperchlorhydria and rebellious motor insufficiency of the stomach and post-operative reflux. The patient

was a young physician. Kocher's anterior antecolic gastro-enterostomy was first done, but was soon followed by new symptoms indicating the reflux not only of large quantities of bile but also of pancreatic juice. Mikulicz then performed a gastro-enterostomoplasty with jejuno-jejunal entero-anastomosis. The symptoms were not improved, the weight was still 10 pounds less than before the first operation. Kocher then operated on the patient, taking a fold in the afferent branch according to Hacker's method, stretching the mesentery of this afferent branch. Improvement was manifest for fifteen days, but the reflux symptoms soon recurred, although the primary symptoms of motor insufficiency had been abolished. This last operation had a favorable influence on the preceding constipation, but owing to diastasis of the recti there was hernia of the entire epigastric region. The patient clamored for a new operation and the duodenum was severed below the pylorus, under ether. The two parallel cicatrices from the previous operations were resected and the abdominal wall closed, in an operation which lasted two hours and a half. As the result of this intervention the reflux of bile was arrested but the even more disagreeable pancreatic juice still found its way into the stomach in sufficient quantities to render life a torment. The afferent branch of the anastomosis was therefore resected a few months later. The conditions, therefore, after the five operations were similar to those of the Doyen gastro-enterostomy with subpyloric section of the duodenum. The experience in this case demonstrates that the Doyen and Roux methods of gastro-enterostomy are the only ones that guarantee against reflux and of these the Roux Y is absolutely the method of choice. If dyspeptic troubles follow a palliative operation in case of cancer, the operator has no cause to reproach himself, but the case is different when the intervention was undertaken for the relief of some benign affection such as Reichmann's disease, gastro-succorrhea, dilatation, ulcer, etc. The operation should never expose the patient to ills worse than his previous condition. The Y gastro-enterostomy requires possibly fifteen minutes longer, but this is nothing in comparison to the benefits attained, unless the patient is very feeble.

Repair of Bone Marrow. V. CORNIL.—The experimental research on dogs reported shows a remarkable power of repair after extensive destruction of the bone marrow. No septicemic phenomena were observed in any instance. In the clinical experiences that have been published, the infection of the focus in the bone has hindered or prevented repair in certain cases, but when it has been possible to control the infection, either by the natural defenses or adequate intervention, repair has occurred quite rapidly and similarly to the experimental experiences reported. Among the cases of resection on record, Sédillot describes a patient, 31 years old, operated on for suppurative coxalgia. The femur was sectioned at the lesser trochanter and the marrow cavity evacuated for 10 cm. The patient died ten months afterward from pelvic suppuration and the femur showed external or periosteal, and internal or marrow, ossification with reconstitution of the marrow cavity which was filled with a gelatiniform marrow. In all these cases the marrow was soft and fatty, probably a trophic alteration. In case of tuberculosis of the diaphyses, suppurative or fungous lesions have been cured by merely exposing the focus and curetting, preventing further infection from the focus by thermocauterizing, impregnating with zinc chlorid or pure carbolic acid or with Felizet's singeing. Protracted drainage is useful and the modifying treatment can be kept up with iodoform aided by ethyl chlorid. In case of acute osteomyelitis it is possible to drain the marrow cavity by passing a drain throughout the entire cavity of the diaphysis of the tibia for instance, using a long, flexible probe to introduce it through a trephining opening. There is no hemorrhage from this procedure as the writer has established on dogs, and Verj and Tscherning in the clinic. In case of neuralgic osteitis, trephining has a tendency to abolish the pain, Gosselin has found, by destroying the nerve filaments or by inducing an acute attack of osteitis which terminates in resolution. Ollier operated on a case of this kind in a syphilitic. The wound was left open a long time and the pains were definitely abolished. Numerous cases of these various bone affections and their operative treatment are described in detail.

Tumors of the Tubes. E. QUENU.—Eighteen pages are devoted to the tabulated observations of tumors of the tubes by various writers, and Quénu describes three personal cases. This and the preceding article are concluded from the October number.

Tuberculous Rheumatism. M. PATEL.—Articular manifestations in the course of tuberculosis have been, until recently, attributed to rheumatic complications. The pathologic anatomy of the joint and positive inoculations have confirmed the tuberculous, toxic character of these joint lesions which may range from simple arthralgia to the classic white swelling, acute or chronic articular rheumatism, even the nodular and deforming varieties, attenuated or not according to the virulence, their number, the general condition of the subject or the local condition of the point affected. Patel describes a number of typical cases of each variety.

Revue de Gynecologie (Paris), v. 4 and 5.

Relations Between Deciduomata and Moles. E. BONNAIRE.—Metoz has recently reported that in 48 out of 98 cases of deciduoma which he had collected, a vesicular mole had previously been observed. An abortion or hydatiform degeneration of the chorionic villi usually precedes the development of a deciduoma. Every woman who has had a hydatid mole should be regarded, Bonnaire insists, as menaced with malignant deciduoma during the following two or three years, at least, unless a normal pregnancy intervenes. The vesicular mass should be removed with the fingers or a blunt curette. The fingers or instrument should not be allowed to press against the wall of the uterus, as it is liable to be thin and friable. The removal of the mole should be followed by a dilating antiseptic and hemostatic tamponing to induce the muscle to contract and recuperate consistency and thickness. The cavity left by the mole should be swabbed with creosote or zinc chlorid. The uterus should be curetted again the tenth to fifteenth day. If an atypical metrorrhagia persists or recurs after these procedures the inoculation of the uterus muscle with cancerous elements should be considered probable and the organ should be removed, even if it is impossible to detect any intra-uterine nodule or ulceration by digital palpation or by microscopic examination of the scrapings. Hydatid mole frequently follows an old endometritis. Menu found only 12 cases in 79 in which a hydatid mole had occurred without a preceding childbirth. The patients are usually 25 to 30 years old. Loehlein observed one case in which the neoplasm developed after the second year, but in a personal case described by Bonnaire the mole was removed three weeks after the first symptom, a profuse hemorrhage, had been noted. The hemorrhages soon recurred and vaginal hysterectomy was done a month later. The patient succumbed in forty-eight hours to the excessive anemia. The ovaries were in cystic degeneration; this coincidence has been frequently noted. The microscope showed the exclusive participation of the plasmodium in the evolution of the placentoma.

Vaginal Enucleation of Myomata. L. DARTIGUES.—This article describes and illustrates the technique of Segond's method of enucleating submucous sessile or interstitial myomata, with or without morcellement, by uni- or bi-lateral cervico-vaginal hysterotomy. The morcellement is done with a corkscrew inserted in the tumor. This portion is then excised by passing a curved knife around it. By this means cone-shaped pieces are removed until all is gone. The requisites are an approximately regular shape, a movable tumor and the probability that it is single and that the adnexa are sound. This operation may also be indicated under other conditions as a temporary measure. The harmlessness and the conservative character of the intervention commend it for young women and also during the period around the menopause, on account of the importance of the uterus from the point of view of the pelvic statics. About 1200 gm. is the

largest size that can be successfully ablated by this method. The results have been exceptionally brilliant in Segond's experience in many patients whose general condition prohibited a major operation. In all his numerous cases the undeniable advantages of the operation have demonstrated that it is entitled to a prominent place among conservative operations. The exact conditions in 25 cases are illustrated. Only one patient died.

Semaine Medicale (Paris), December 18.

Comparative Measurements of the Heart. POTAIN.—This is the last work from the pen of the late Prof. Potain and is published with an extended notice of his career and a reproduction of the plaque which was to have been presented to him on his anniversary. He compares radiography and percussion and states that the former has given us confidence in the findings of the latter, impossible to be attained in any other way. But at the same time he warns young practitioners not to be satisfied with radiography alone.

Centralblatt der Bakteriologie (Jena), xxx, 17.

Bacteria in School Dust. E. CACACE.—A bacteriologic study was made of dust from the various rooms of the normal school at Padua, taken at different times throughout an entire year. All the guinea-pigs and rabbits inoculated with the dust died with indications of septicemia, and the colon bacillus and the staphylococcus aureus and albus could be cultivated from the blood of heart and spleen. A remarkable fact noticed was the complete absence of tubercle bacilli. None were found at any time. Another fact was the great increase in numbers and virulence of the bacilli during the month of June. The pneumococcus was found once. The largest number of germs was found in the dust from the kindergarten room. None of the animals exhibited any symptoms of tetanus. The colon bacillus was numerous and always virulent.

No. 18.

New Facts Learned from Agglutination Tests with Vibriones. J. H. F. KOHLBRUGGE.—The relative virulence of a bacterium and the proportion of toxins in a sterilized bouillon can both be ascertained from the agglutination of the bacterium by the toxin, Kohlbrugge announces. The phenomenon is most conveniently observed in a hanging drop. Vibriones are rapidly agglutinated by the toxins from a more virulent vibrio. The toxins, he thinks, are secreted by the micro-organisms.

No. 19.

Visible Evidence of Action of Alexins. A. PETTERSSON.—Interesting tests of the bactericidal and hemolytic properties of blood serum, that is, of the alexins which it contains, can be made in a test tube. The tube is partly filled with nutrient gelatin and sown with the typhoid or other bacillus. A layer of serum is then poured on top of the gelatin. Albuminous substances diffuse through the upper portion of the gelatin and this occurs also in the case of serum. Its elements permeate the gelatin to a certain depth. The bacilli proliferate below but never grow upward into the layer of gelatin in contact with the serum. It remains clear and comparatively transparent. The hemolytic action of an "active" serum can be demonstrated in this way even more distinctly.

No. 20.

Intracellular Constituents of the Typhoid Bacillus. A. MACFADYEN AND S. ROWLAND.—This communication reports the results of a study of the question of immunity from a new standpoint, the intracellular factors of health and disease, both as regards the micro-organism and the soil on which it grows. This has been accomplished by obtaining the cell substance from the living cell free from all secreted or excreted substances. Cell plasma from the typhoid bacillus was chosen for the experiments and the result demonstrated the astonishing fact that a single injection of 1, .5 or even .2 c.c. of the cell plasma, either subcutaneous or into the peritoneal cavity, completely protected guinea-pigs and rabbits against a certain lethal dose of typhoid bacilli. The protection afforded was complete even when tested against six lethal doses. The animals are all alive and well six months later. The protection from a single injection did not last longer than about four weeks. The tolerance displayed by the guinea-pigs to large doses of the typhoid cell plasma was most remarkable. The plasma was rapidly absorbed with no local irritation, even in subcutaneous injections. The cell plasma after the addition of thymol was kept in a cold place for four months without losing its immunizing properties. In addition to the protection afforded by the injections the blood of the treated animals showed marked agglutinating power in the Widal test for three months afterward in guinea-pigs and for nine months in rabbits. The protection and the agglutinating property did not parallel each other. The bacilli were at first disintegrated with sand, but the technique as now improved dispenses with the sand. The trituration is at present accomplished by increasing the brittleness of the cells by freezing them at the temperature of liquid air. [The article is in English.]

Beitraege z. path. Anat. (Jena), xxx, 3.

Angiosclerosis in the Pulmonary Circulation. H. BRUENING.—Out of 21 cases of angiosclerosis of the pulmonary circulation observed by Bruening, the lesions were macroscopic in 9. In 7 there was no concomitant sclerosis of the aorta. The sclerosis was most marked in the arteries and veins of the lungs, occasionally in the bronchial arteries, never in bronchial veins. In one instance the sclerosis was very pronounced in the lung vessels while the rest of the body was exempt. In 6 patients there was mitral insufficiency; in 4 degeneration of the heart muscle, especially of the left ventricle and in 11 pathologic conditions in the respiratory organs which rendered respiration difficult.

Osteogenesis Imperfecta. F. HARBITZ.—A case of the so-called "fetal rachitis" is illustrated. The head and trunk were normally developed but the long bones were abnormally short and small, with numerous fractures. The bones showed the same microscopic characteristics as in cretinism, but the glands were apparently normal except for the fact that no iodin could be detected in the thyroid gland. The microscopic findings were diametrically the reverse of those noted in rachitic and syphilitic osteochondritis.

Centralblatt f. Gyn. (Leipsic), November 23.

Premature Detachment of Normally Located Placenta. W. RUEHL.—According to Goodell's statistics, only 6 children and 52 of the mothers were saved in 106 cases of this dangerous complication of pregnancy. Ruehl believes that the fetus succumbs to the interruption of the circulation, the mother to hemorrhage from the uterine wall. He describes a personal case, the patient a healthy ii-para. The previous day she had experienced a slight contusion of the abdomen. A few pains suggesting labor were followed by a sudden intense pain with a sensation as if something had torn loose inside, moderate vaginal hemorrhage, and loss of consciousness for a time, followed by violent labor pains, the hemorrhage increasing while they lasted. Attempts to dilate the cervix with the colpeurynter were abandoned as the patient collapsed, with indications of rapidly increasing distension of the uterus from internal hemorrhage. Vaginal Cesarean section was done and the fetus extracted, all in six minutes. The hemorrhage ceased as soon as the uterus was cleared. The patient recovered after hovering for twenty hours between life and death. She evidently owed her life to the rapidity with which the vaginal Cesarean section can be done.

Treatment of Eclampsia. W. STROGANOFF.—This method of treating eclampsia has been fully described in THE JOURNAL. Stroganoff now has an experience of 113 cases of puerperal eclampsia, which he considers an acute infectious disease. Three patients died from a complicating pneumonia, one from a septic process twenty-seven days after cessation of the eclampsia and two were moribund when first seen—a total of 6 deaths in the 113 cases.

November 30.

Treatment of Dysmenorrhea. A. THEILHABER.—According to Theilhaber's theory, many cases of dysmenorrhea are

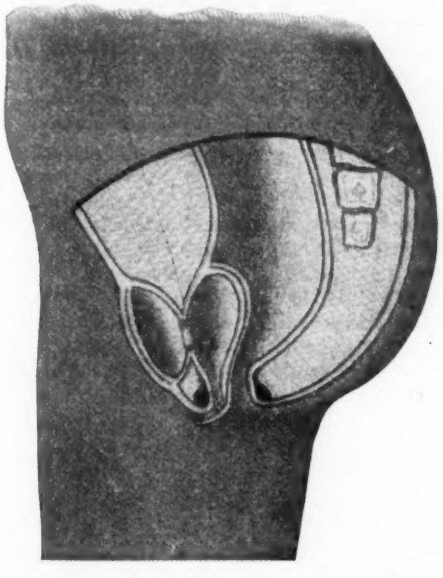
due to a tetanic contraction of the sphincter of the internal os. Such contractions of unstriped muscle are always painful, as in cramps of the pylorus, anus, etc. They can be prevented by excision of a small wedge-shaped piece out of the sphincter. He uses a small knife for the purpose of curing dysmenorrhea on this principle, made in such a way that it can not penetrate more than 6 cm. into the tissues. His results have been extremely satisfactory in twenty-two cases in which he has applied this measure after the failure of general and local treatment.

December 7.

Survival After Extirpation of Carcinoma. E. WALDSTEIN.—The experiences at Schauta's clinic demonstrate that 4 out of every 100 women with cancer can be permanently cured. Only 14.7 of the entire number of cases of cancer that came to the clinic were in an operable stage. The operation was by the vaginal route in 112 followed to date, and 28 are permanently cured. Schauta's statistics show 26.4 per cent. of the cases of the collum, without recurrence to date, and 83 per cent. of 6 cases of cancer of the corpus without recurrence.

Centralblatt f. Chirurgie (Leipsic), December 21.

New Treatment of Exstrophy of the Bladder. W. SUBBOTIN.—This Russian surgeon has operated with brilliant success on two patients with exstrophy of the bladder, epispadias and incontinence of urine, by constructing a new bladder and urethra, with a sphincter, out of the rectum. He incises and opens the rectum from the rear after resection of the coccyx.



He then incises the anterior wall of the rectum for 3 cm. and also incises the posterior wall of the bladder as it is pushed into the opening in the rectum by the finger of an assistant introduced from the front. This anastomosis between bladder and rectum is then carefully sutured. A flap is then cut in the anterior wall of the rectum, shaped like a long horseshoe, the very narrow base consisting of a portion of the anus. The flap includes about one-third of the circumference of the rectum. The edges are loosened, brought up and sutured together, thus forming a pear-shaped cavity inside the rectum, with a broad communication into the bladder and the natural sphincter of the portion of the anus below. This new cavity is entirely separate from the cavity of the rectum proper. It performs the functions of bladder and urethra with perfect success. The urine is spontaneously voided after due warning five or six times a day and there is no interference with the normal functions of the rectum. The patients have been permanently freed from their incontinence and the conditions have remained as satisfactory as at first after ten months in the first and six in the second case.

Deutsche Med. Wochenschrift (Leipsic), December 12.

Extermination of Rats. R. ABEL.—Cultures of the Danysz bacillus in Abel's tests were found effective in some cases and not in others. In one large stable infested with rats, after the death of one rat and one mouse, the rest vanished completely and permanently. The mouse typhoid bacillus has proved almost invariably successful in his experience, and the occasional success with the Danysz bacillus should encourage further trials. It might be possible to utilize also Issatschenko's bacillus for the purpose. It belongs to the coli group and has proved pathogenic for rats.

Pseudo-Fibrinous Formation in Urine. A. ROTHSCHILD.—Seven cases have been published in which a semi-solid, fibrin-like worm has been spontaneously voided in the urine. It was ascribed to a membranous ureteritis by some, by others to a pyelitis, etc. Rothschild describes a recent case in which a worm-shaped coagulum of this kind was passed in the urine. It did not take the Weigert fibrin stain, and the microscope showed that it was a structureless mass. Four months later the patient returned much emaciated with pains and a tumor in the left kidney. The nephrectomy disclosed a sarcoma with giant cells at the upper pole of the kidney. A brownish concrement was found in an ampulla in the ureter near the pelvis, and behind this concrement was a mass of substance identical with that of the fibrin-like worm voided. The discovery of such a structureless formation in the urine, especially when blood can be determined in the urine with or without the microscope, should suggest the possibility of a tumor. Fürbringer and Alexander have observed a somewhat similar phenomenon in three cases of typhoid fever. In Rothschild's case the patient was apparently healthy, with merely a history of hematuria for three weeks in 1897, for three days in 1900, and a few months later, the expulsion of the coagulum after three days of discomfort in the bladder region.

Muenchener Med. Wochenschrift, December 10.

Medicinal Treatment of Fever in Tuberculosis. F. KOEHLER.—It is a great mistake, Koehler thinks, to rely too exclusively on dietetic and physical measures in the treatment of tuberculosis, and omit to control the symptoms and especially the fever, with appropriate medication. All the other symptoms improve after the fever is brought under control.

Temperature in Consumptives After Exertion. A. OTT.—Twenty-five tuberculous subjects with normal temperature showed the usual slight rise in temperature after a walk, and examination of the urine demonstrated the presence of albumoses as positive in 9 and probable in 10 more. The finding of albumoses in the urine is generally accepted as an indication of fever, and consequently even this slight temperature after exertion must be regarded as fever induced by the exercise. The fact also that overexertion by a consumptive has frequently been the starting point of a protracted fever, confirms the connection between exercise and the higher temperature, and indicates the necessity of restricting the exercise to the amount below that followed by fever.

Gelatin in Hemoptysis. A. HAMMELBACHER.—Subcutaneous injections of gelatin were applied in four cases of rebellious and recurring tuberculous hemorrhages from the lungs. In each patient the hemorrhages became less frequent and less in amount until they ceased completely. The injections were made in the breast or thigh, from 20 to 120 c.c. at a time of a 2.5 per cent. neutralized solution of gelatin in physiologic salt solution. The injections were not painful at first but after two or three hours were painful for a time. The pain was usually controlled by warm compresses. A peculiar taste like sealing wax or mucilage was noticed in the mouth for a day or so after each injection.

Hemoglobinometer. GAERTNER.—This new apparatus for the determination of the proportion of hemoglobin in the blood is called the "hemophotograph," as it is used with sensitized or photograph printing papers. Light passes through a thin layer of pure water and acts on photograph printing paper

below as if nothing intervened. But blood is comparatively impermeable for the light. Diluted blood will also arrest the light according to the proportion of blood in the fluid. The apparatus is constructed on this principle. A strip of glass is made clear at one end, gradually becoming darker, that is, non-transparent, toward the other end. One side of the strip is marked with a graduated scale in millimeters. It fits into a frame like an ordinary photographic printing frame, extending through the center from end to end. On one side of it is a square frame with a large hole in the center, which is the "chamber" to hold the blood. Glass above and below protects it. After the sensitized paper is inserted in the frame, it is exposed to gas, lamp or incandescent electric light for a few minutes, until the paper under the solution of blood has turned the proper shade, determined by comparison with a strip of the color painted on the glass. The photograph thus obtained is then compared with the paper under the strip with the scale, and the figure of the scale corresponding to the exact shade is recorded. This apparatus is surprisingly exact and shows even very slight variations in the proportion of hemoglobin, impossible to detect by other means. The photographs thus obtained are valuable for reference later and the technique is so simple that it is mastered at the first attempt.

Guide for Stomach Tube. W. N. CLEMM.—The principal advantage claimed by Clemm for this contrivance is that it clears the fenestræ in the sound. The flexible wire terminates below in a metal "basket" like an inverted cap with ear pads. The projecting portions serve as knives to cut any fragments of meat, etc., which may become lodged in the fenestræ.

December 17.

Cutaneous Symptom Accompanying Malignant Disease. LESER.—Leser has noticed that his patients with cancer exhibited numbers of small angiomata—bluish-red tumors in the skin. He has noticed this coincidence in all his 60 cases, and Mueller in 49 out of 50. Nothing of the kind was found in 300 patients with other surgical or internal affections. The average number was more than 15; 58 were noticed in one case of mammary cancer and 216 on another patient. The majority of the angiomata in the last case developed within two months. Such tumors are rare under 50 years of age, and their appearance in large numbers in a comparatively young person may be accepted as an aid in the diagnosis of a malignant neoplasm. Freund and Hollaender, he adds, have also recently called attention to the presence of such angiomata as suspicious of cancer.

Therapie der Gegenwart (Berlin), December.

Indications and Contra-Indications for Lavage of the Stomach. I. BOAS.—Lavage of the stomach is not considered such an innocent measure by Boas as is generally accepted. It causes now and then a little bleeding, and this may be followed sooner or later by an erosion or even ulceration. THE JOURNAL has mentioned Bendersky's recommendation of lavage of the stomach as a means of treating nervous vomiting. Boas states that he has never found it necessary in any of his cases of this kind, as the patients have always recovered with repose, iced milk and occasionally small doses of some bromid. He is inclined to restrict the washing of the stomach to cases of marked dilatation or possibly certain cases of intestinal occlusion. He believes that it is absolutely contra-indicated in chronic gastritis without a specially excessive secretion of mucus; also in case of ulcer unless complicated by severe motor disturbances. Ewald and Minkowski have recommended rinsing the stomach with iced water as a last resort in profuse hemorrhage from the stomach. Lavage of the stomach has been frequently applied in functional affections, with considerable success, but Boas is convinced that the same results could have been attained with simpler measures, such as self-lavage as he calls the drinking of Carlsbad and other mineral waters. Lavage is useful with moderate retention in case of stenosis of the pylorus or carcinoma of the stomach, but not to the extent that some advise. A thorough washing once or twice a week is usually sufficient. The conditions are very different in case of carcinoma of the pylorus, especially if accompanied by much "coffee dregs" in the stomach. Such patients are liable to collapse after repeated lavage of the stomach. One of his patients grew worse so rapidly after the lavages that they were abandoned and he recuperated after their discontinuance. It is possible that the sound may cause renewed hemorrhage in these cases, or the sudden transition of the stomach from a distended to a contracted condition may entail a kind of shock. Severe ulcerating carcinoma is therefore a contra-indication to washing the stomach. The stagnation can be partially remedied by inserting the sound once or several times a day and removing part of the stagnating debris. This measure requires only a few minutes, and relieves to a certain extent the disturbances resulting from over-distension of the stomach. He asserts that there is no rational basis for lavage in case of atony with or without gastroptosis. Regulation of the diet will achieve the desired result, supplemented by alkalies and possibly, small doses of morphin, codein or belladonna to dispel the pain at the height of digestion.

Phosphorus in Rachitis. H. LEO.—No conclusive proof has yet been offered of a specific action of phosphorus in rachitis, Leo remarks. On the other hand, he says, cases have been published showing an actually deleterious influence. THE JOURNAL has mentioned Nebelthau's experience, the death of a well developed child of two years after taking only 3 mg. of phosphorus in the course of sixty hours. Leo relies principally on dietetic and hygienic measures, especially the systematic administration of olive oil. If no improvement follows this treatment, he gives phosphorus in small doses, not over one teaspoonful of a .001 per cent. solution or ten drops of a .01 per cent.

Wiener Klinische Rundschau, December 8.

Experiences with Spinal Anesthesia. W. KOPFSTEIN.—Alpha eucain was used in 4 operations and tropacocain in 40. Kopfstein injected 3 cg. of the eucain and reports that severe collapse, high temperature and intolerable headache were observed in 3 cases, and in all a remarkable painfulness at the site of the operation commencing a few hours afterward. The fourth patient was a man of 27 operated on for an anal fistula. The only symptom observed was a temperature of 40 C. for twenty-four hours, but when seen again four months later, the knee-jerk was found exaggerated. The patient also complained of formication and frequent sacral pains and stated that his legs had been weak since the operation. The experiences with tropacocain were more favorable. It never induced fever. The dose injected was from 4 to 5 cg., and in 27 cases the results were very fine. Several of the patients were elderly and arteriosclerotic, but the Bassini operation, herniotomy or extirpation of the rectum were performed smoothly and perfectly without leaving traces of the anesthesia, which certainly would not have occurred with chloroform. An injection of 5 cg. of tropacocain in 3 men, 77 to 78 years old, induced complete anesthesia during amputation of the leg or thigh on account of senile gangrene. The general condition was so miserable that they probably would not have survived a chloroform anesthesia. None of these 27 cases exhibited the slightest symptom attributable to the anesthesia. In 5 other cases the anesthesia was perfect, but a violent reaction occurred afterward, with severe collapse in one. The patients were between 17 and 46 years. The collapse occurred one hour after circular extirpation of hemorrhoids. The pulse was only 48. The heart action improved the next day, but the general depression with pallor and loss of appetite lasted for three weeks. In 8 other cases no anesthesia followed the injection, but the patients reacted with vomiting, headache and intense pain in the spine. The operation was postponed in all but 2. He observed that the reaction was less violent after a good breakfast and the heart stimulated with coffee or wine, and his experiences have been more favorable since he noticed this fact and acted upon it. The possibility that the anesthesia may fail, as occurred in 20 per cent. of his cases as above described, should impose caution in adopting this method of analgesia in urgent cases.

Gazzetta degli Ospedali (Milan), December 1.

Experimental Vaccination with Fraenkel's Bacillus. G. TIZZONI.—The animals that bore with little disturbance a small dose of a virulent culture of the bacillus, proved more resistant afterwards when a larger dose was injected of the same or even more virulent culture, in Tizzoni's experiments. These facts suggested the possibility of successful serotherapeutic vaccination and further experiences have confirmed its feasibility. Sixteen animals were vaccinated in a vein or under the skin or in the trachea or by all three routes. A single injection was sufficient in some instances and as many as fourteen were made in others. Animals thus injected with a single loop of the culture were able to tolerate a fatal dose, eleven days later, while the control animals all died. If 5 c.c. of the filtrate were injected into a vein, the fatal dose could be safely administered in two days, but certain symptoms indicated that the immunity was not quite complete. The tests showed that the different culture media and conditions of the culture have the same influence on its vaccinating power as they display in regard to its virulence and toxic properties. Intravenous injections evidently induced a more complete immunity than by any other route. The vaccination also proved more effective and more readily obtained, the less the disturbance caused by the injections. The best immunizing results were obtained ten to fifteen days after the vaccinating injections. The immunity is more complete against the fever and marasmus than against the disturbances in the nervous system.

Treatment of Chorea.—Jemma reports the successful application of lumbar puncture in two cases of distressing chorea in children.

Hygiea (Stockholm), September.

Larva in Eye. K. STALBERG.—A larva, 1 cm. in length, was removed from the anterior chamber of the eye of a 5-year-old girl. It had probably been in the eye for five months, as the inflammation had lasted this length of time.

Revista Med. del Uruguay (Montevideo), November 1.

Tea Kettle Laryngitis. L. MORQUIO.—Five cases of severe edematous laryngitis in children 2 or 3 years of age, caused by sucking the spout of a tea-kettle full of boiling water, have recently come under Morquio's care. Twenty-four hours usually decide the child's fate as the condition rapidly alters for better or worse. Three required tracheotomy on account of the suffocation induced by the excessive edema and secretions. One died in two days. The second had apparently recovered from the burn and consecutive bronchopneumonia, when a fulminating hemorrhage occurred fourteen days after the scalding. No autopsy was allowed. The other children recovered. Treatment was local with a solution of boric acid, application of picric acid, and calomel internally. Cold compresses were applied to the neck.

Queries and Minor Notes.

IS ABORTION JUSTIFIABLE IN THE INSANE PREGNANT?

MARION, IND., Jan. 7, 1902.

To the Editor:—In THE JOURNAL of Jan. 4, 1902, I find the following query: "A young woman shortly after marriage was discovered to be mentally unsound, the character of her condition being akin to paranoia. Her husband is a neurasthenic with a bad heredity. Her mother is a paranoiac and has been in an asylum for thirty-five years. Her father was an inebriate. This woman is pregnant. Whether pregnancy will affect her mental condition favorably or unfavorably is uncertain; probably it will affect it very little either way. But there is little doubt that the child would be a degenerate. Now, would it be justifiable to produce an abortion to prevent the birth of such a child, or could such a procedure under the circumstances be a crime?" Your reply to the above is: "It would be criminal."

There are tens of thousands of intelligent people in and outside of the medical profession who join with me in asking you why it would be a crime. D. E. M.

ANS.—It is criminal, because the laws in regard to criminal abortion make no exceptions for such conditions. We do not care to discuss the propriety of modification of the law.

CARD ANNOUNCEMENTS IN COUNTRY PAPERS.

WHITE BIRD, IDAHO, Dec. 31, 1901.

To the Editor:—Is the matter of announcing the name and occupation in a local paper professional or is it considered advertising? (See example in enclosed clippings.) Most regular physicians in this county have their name and profession in the paper.

W. A. F.

ANS.—The clippings enclosed contain simply card announcements of physicians that appear in country papers, giving the name, office and residence address. These are perfectly ethical and proper, according to the spirit of the Code. One physician gives the practice as limited to diseases of the eye, ear, nose and throat, which is also correct, provided it is a statement of absolute fact. In small towns this practice of inserting a card is common.

PRAIRIE ITCH.

RANSOM, KAN., Jan. 11, 1902.

To the Editor:—Can you give a satisfactory treatment for the affection vulgarly known as "prairie itch," "Kansas itch," and "prairie digs?" I have been unable to find the affection satisfactorily described in the text-books, but it seems to me to be a subacute variety of urticaria. W. S. G.

ANS.—"Prairie itch," like many other common terms, has no very definite signification; it may mean one thing in one locality and something else in another. It is a name, as a prominent dermatologist once put it, based on a want of knowledge of skin diseases. Most cases are probably some form of eczema; some are true scabies, and it is sometimes applied to various pruritic and urticarial conditions. The subject was discussed by Dr. W. T. Corlett in THE JOURNAL for October 13, 1888.

New Patents.

Patents of interest to physicians, December 17 and 24:

688,935. Apparatus for examining cavities in the human body. Sylvanus B. Crane, Perry, Iowa.
688,936. Artificial limb. David Devol, Grandbay, Ala.
688,987. Optical instrument for measuring the distance between the eyes. Emil Donitz, Jena, Germany.
689,355. Atomizer. Anton C. Eggers, Brooklyn, N. Y.
688,859. Disinfecting cloth and making same. Alfred Just, Mannheim, Germany.
688,864. Inhaler. Solomon M. Kemp, Baltimore, Md.
689,107. Disinfecting apparatus. Welam L. Mitchell, Brooklyn, N. Y.
688,881. Syringe-nozzle. Russell Parker, Brooklyn, N. Y.
689,023. Precipitating casein. Maximilian Riegel, Berlin, Germany.
689,718. Suspensory. Wm. J. Hay, Oshkosh, Wis.
689,818. Syringe. Addison W. Hitt, San Francisco, Cal.
689,808. Surgeon's sponge substitute. Robert W. Johnson, New Brunswick, N. J.
689,406. Electric exercising apparatus. Alfred Olson, San Diego, Cal.
689,652. Exercising device. Edmund Perry, Cardiff, England.
689,831. Fracture apparatus. John W. Pettee, Denver, Colo.
689,752. Suspensory bandage. Lee Rogers and J. E. Cuthbert, Petersburg, Va.
689,418. Exercising apparatus. Michael B. Ryan, Cologne, Germany.
689,602. Sanitary garment. George Turner, Schuyler Lake, N. Y.
35,468. Design, druggists' label case. A. S. Baird, New York City.
35,469. Design, retinoscope member. T. H. Bickerton, Liverpool, England.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE 32D ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Cloth. Pp. 891. Boston: Wright & Potter. 1901.

LE MALATTIE DEL SANGUE. Manuale di Ematologia. Dottor Emilio Rebuschini. Un vol. di pag. viii-432. Milano: Ulrico Hoepli. 1902.

THE 35TH ANNUAL REPORT OF THE CENTRAL FREE DISPENSARY of West Chicago, for the Year Ending Nov. 30, 1901. Paper. Pp. 24. Chicago: A. L. Swift & Co. 1901.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY, at the 110th Anniversary, held at Concord, May 16 and 17, 1901. Cloth. Pp. 347. Concord, N. H.: Ira C. Evans. 1901.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Thirty-first Annual Convention. By-laws and List of Members. Cloth. Pp. 548. Denver: Published by the Society. 1901.

ANNUAL REPORT OF THE CHIEF SURGEON, Division of the Philippines, for the Period Ending May 16, 1901. By Col. Charles R. Greenleaf, Assistant Surgeon-General, U. S. A. Paper. Pp. 24.

TRANSACTIONS OF THE 31ST ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA. Held in Charlottesville, Oct. 23-25, 1900. Cloth. Pp. 380, xcvii. Richmond, Va.: Williams Printing Co. 1901.

KIRKE'S HANDBOOK OF PHYSIOLOGY. By W. D. Halliburton, M.D., F.R.S., Professor of Physiology, King's College, London. Seventeenth Edition, with 681 Illustrations. 12mo, 888 pages. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

BRIEF MANUAL OF PRESCRIPTION-WRITING in Latin or English for the Use of Physicians, Pharmacists, and Medical and Pharmacal Students. By M. L. Neff, A.M., M.D., Cedar Rapids, Iowa. Pp. v-152. Size, 8x5¾ inches. Extra Cloth, 75 cents net. Philadelphia: F. A. Davis Co. 1901.

STUDIES IN THE PSYCHOLOGY OF SEX. SEXUAL INVERSION. By Havelock Ellis, L.S.A. (England); Fellow of the Medicolegal Society of New York and the Anthropological Society of Berlin. Pp. xi-272. Size, 8⅝x5¾ inches. Extra Cloth, $2.00 net. Philadelphia: F. A. Davis Co. 1901.

OUTLINES OF GYNECOLOGICAL PATHOLOGY AND MORBID ANATOMY. By C. Hubert Roberts, M.D. Lond., F.R.C.S. Eng., M.R.C.P., Physician to the Samaritan Free Hospital for Women. With 151 Illustrations, Mostly Original. Pp. 330. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

A LABORATORY GUIDE TO THE STUDY OF QUALITATIVE ANALYSIS. By E. H. S. Bailey, Ph.D., Professor of Chemistry; and Hamilton P. Cady, A.B., Assistant Professor of Chemistry, in the University of Kansas. Fourth Edition. 12mo, 235 pages. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1901.

THE FOUR EPOCHS OF WOMAN'S LIFE. A Study in Hygiene. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women." With an Introductory Note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. 12mo volume of 200 pages. Cloth, $1.25 net. Philadelphia and London: W. B. Saunders & Co. 1901.

MANUAL OF PHYSICAL DIAGNOSIS. For the Use of Students and Physicians. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the University Hospital. Fourth Edition, Revised and Enlarged, with Colored and Other Illustrations. 12mo. Cloth, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1901.

VENEREAL DISEASES. A Manual for Students and Practitioners. By James R. Hayden, M.D., Chief of Clinic and Instructor in Venereal and Genito-Urinary Diseases at the College of Physicians and Surgeons, New York. Third and Revised Edition. Illustrated with 66 Engravings. Cloth. Pp. 301. Price, $1.75. Philadelphia and New York: Lea Brothers & Co. 1901.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. A Series of 80 Plates, Comprising More Than 100 Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part VII. Philadelphia and London: J. B. Lippincott Co. 1901.

ESSENTIALS OF PHYSIOLOGY. Prepared Especially for Students of Medicine; and Arranged with Questions Following Each Chapter. By Sidney P. Budgett, M.D., Professor of Physiology, Medical Department of Washington University St. Louis. 16mo volume of 233 pages, finely illustrated with many full-page half-tones. Cloth, $1.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A MANUAL OF MINOR SURGERY AND BANDAGING. For the Use of House Surgeons, Dressers and Junior Practitioners. By Christopher Heath, F.R.C.S., LL.D., Consulting Surgeon to University College Hospital and Emeritus Professor of Clinical Surgery in University College, London. Twelfth Edition. Revised by Bilton Pollard, F.R.C.S., Surgeon to University College Hospital. Cloth, $1.50 net. Philadelphia: P. Blakiston's Son & Co.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, with Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia. Fifth Edition, Thoroughly Revised. Pages viii-1143. Size, 9¼x6¼ inches. Extra Cloth, $5.00 net. Philadelphia: F. A. Davis Co. 1901.

REGIONAL ANATOMY OF THE HEAD AND NECK. A Text-Book for Students and Practitioners of Dentistry. By William T. Eckley, M.D., Professor of Anatomy in the Chicago College of Physicians and Surgeons, etc., and Corinne B. Eckley, M.D., Professor of Anatomy, Chicago School of Anatomy and Physiology, etc. In One Octavo Volume of 240 Pages, with 36 Engravings and 20 Full-page Colored Plates. Cloth. Price, $2.50 net. Philadelphia and New York: Lea Brothers & Co.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, for week ending Jan. 4, 1902:

Asst.-Surgeon R. C. Holcomb, detached from duty with the Marine Battalion, Cavite, P. I., and from the *Helena*, and ordered home to wait orders.

Asst.-Surgeon R. M. Young, detached from the *Constellation*, and ordered to the Asiatic Station, via the *Rainbow*, as the relief of Asst.-Surgeon R. C. Holcomb.

Asst.-Surgeon J. B. Buchanan, detached from the *Columbia* and ordered to the *Constellation*.

Asst.-Surgeon E. M. Blackwell, ordered to the *Columbia*.

Asst.-Surgeon A. M. Fauntleroy, detached from the Naval Academy and ordered to the Naval Hospital, Norfolk, Va.

Asst.-Surgeon P. E. McDonnold ordered to the Naval Academy.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended January 2, 1902:

Surgeon J. M. Gassaway, granted leave of absence for five days from December 26. Granted two days' extension of leave of absence, Dec. 31, 1901.

Surgeon Fairfax Irwin, granted leave of absence for seven days from December 27.

Surgeon F. W. Mead, upon being relieved by Surgeon D. A. Carmichael, to proceed to Pittsburg, Pa., relieving A. A. Surgeon R. C. Craig.

Surgeon D. A. Carmichael, upon being relieved by P. A. Surgeon H. S. Cumming, to proceed to Vineyard Haven, Mass., relieving Surgeon F. W. Mead.

Surgeon P. C. Kalloch, upon being relieved by Asst.-Surgeon J. T. Burkhalter, to proceed to Washington, D. C., and report for orders, preliminary to going to Portland, Me.

P. A. Surgeon J. O. Cobb, granted leave of absence for twenty days from January 2.

P. A. Surgeon H. S. Cumming, directed to assume command of the San Francisco quarantine station, relieving Surgeon D. A. Carmichael.

Asst.-Surgeon Taliaferro Clark, granted leave of absence on account of sickness for seven days from Dec. 18, 1901. Granted twenty-one days' extension of leave of absence on account of sickness, from December 26.

Asst.-Surgeon C. H. Lavinder, granted leave of absence for two days.

Asst.-Surgeon J. T. Burkhalter, relieved from duty at Mobile, Ala., and directed to proceed to Gulf Quarantine Station, relieving Surgeon P. C. Kalloch.

A. A. Surgeon D. F. Dudley, department letters of Oct. 10, 1901, granting A. A. Surgeon Dudley leave of absence, on account of sickness, for thirty days from October 7; and leave of absence for thirty days from November 7, amended so that the sick leave shall be from October 9, and annual leave from November 28. Directed to proceed to Immigration Depot, New York, N. Y., and report to Surgeon G. W. Stoner for duty.

A. A. Surgeon R. E. Ebersole, granted leave of absence for three days from December 31, under paragraph 181 of the regulations.

A. A. Surgeon H. C. Sibree, granted leave of absence for seven days from December 30.

BOARD CONVENED.

Board convened to meet Jan. 6, 1902, at the marine hospital, Chelsea, Mass., for the physical examination of an applicant for appointment in the Revenue Cutter Service. Detail for the Board: Surgeon Fairfax Irwin, chairman; Asst.-Surgeon M. W. Glover, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 4, 1902.

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 15-22, 9 cases; San Pedro, Dec. 7, 1 case, origin Randsburg, Cal.
Indiana: Evansville, Dec. 21-28, 5 cases.
Kentucky: Lexington, Dec. 21-28, 4 cases, 2 deaths.
Louisiana: New Orleans, Dec. 21-28, 1 case.
Maine: Portland, Dec. 21-28, 1 case.
Massachusetts: Boston, Dec. 21-28, 27 cases, 8 deaths; Cambridge, Dec. 21-28, 1 case; Fall River, Dec. 21-28, 1 case; Medford, Dec. 21-28, 1 case; Quincy, Dec. 21-28, 4 cases; Woburn, Dec. 15-21, 1 case.
Minnesota: Minneapolis, Dec. 15-28, 22 cases; Winona, Dec. 15-21, 3 cases.
Missouri: St. Louis, Dec. 19, 1 case.
Nebraska: Omaha, Dec. 21-28, 20 cases.
New Hampshire: Nashua, Dec. 21-28, 1 case.
New Jersey: Camden, Dec. 21-28, 16 cases, 3 deaths; Newark, Dec. 21-28, 20 cases, 6 deaths; Passaic, Dec. 15-28, 4 cases, 1 death.
New York: Dec. 21-28, Binghamton, 1 case; New York, Dec. 21-28, 19 cases, 4 deaths.
Ohio: Ashtabula, Dec. 21-28, 1 case; Cincinnati, Dec. 20-27, 9 cases.
Pennsylvania: Hazleton, Dec. 24-31, 11 cases; Lebanon, Dec. 21-28, 35 cases; Norristown, Dec. 21-28, 5 cases; Philadelphia, Dec. 21-28, 79 cases, 19 deaths.
Rhode Island: Providence, Dec. 21-28, 1 case.
South Carolina: Greenville, Dec. 15-21, 2 cases.
Tennessee: McMinn County, Dec. 15, 24 cases; Memphis, Dec. 21-28, 2 cases; Polk County, Dec. 15, 4 cases.
Utah: Salt Lake City, Dec. 21-28, 2 cases.
Wisconsin: Green Bay, Dec. 22-29, 10 cases; Milwaukee, Dec. 21-28, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Ghent, Dec. 7-14, 5 deaths.
Brazil: Pernambuco, Nov. 1-30, 130 deaths; Rio de Janeiro, Nov. 10-24, 119 deaths.
Canada: Halifax, Dec. 21-28, 11 cases, 1 death; Quebec, Dec. 15-28, 56 cases; Winnipeg, Dec. 15-21, 2 cases.
Colombia: Cartagena, Dec. 9-15, 2 deaths; Panama, Dec. 16-23, 15 cases.
France: Lyons, Nov. 30-Dec. 7, 1 death; Paris, Dec. 7-14, 8 deaths.
Great Britain: London, Dec. 7-14, 506 cases, 29 deaths.
Mexico: Merida, Nov. 23-30, 1 case.
Russia: St. Petersburg, Nov. 30-Dec. 7, 4 cases, 4 deaths; Warsaw, Nov. 23-30, 2 deaths.
Spain: Corunna, Dec. 7-14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Nov. 10-24, 3 deaths.
Mexico: Merida, Nov. 23-30, 1 death; Vera Cruz, Dec. 14-21, 10 cases, 9 deaths.
West Indies: St. Lucia, Dec. 16, present.

CHOLERA.

Java: Batavia, Nov. 16-23, 21 cases, 15 deaths.
Straits Settlements: Singapore, Nov. 8-16, 10 deaths.

PLAGUE—UNITED STATES AND INSULAR.

California: San Francisco, Dec. 15-22, 1 case.
Hawaii: Honolulu, Dec. 11-14, 4 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Nov. 10-24, 23 deaths.
Mauritius: Mauritius, Nov. 28-Dec. 5, 52 cases, 37 deaths.
South Africa: Massell Bay, Nov. 23-30, 5 cases; Port Elizabeth, Nov. 23-30, 1 case.